

# SUSTAINABLE MANAGEMENT PLAN

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## PROPOSED MIXED-USE DEVELOPMENT

675 Victoria Street, Abbotsford

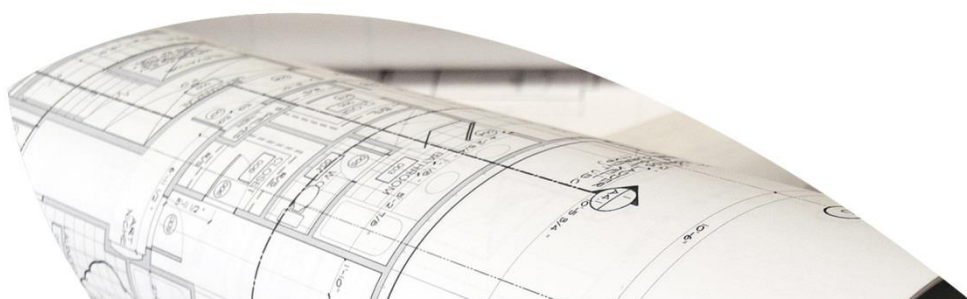
GIW21149  
Revision G

Prepared for:  
Perpetual Corporate Trust Ltd  
ATF Yield Plus Infrastructure  
Property Fund No. 2 Trust 2B  
Ownership Trust No. 5

7 April 2025

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## Revision History

| Revision Number | Date Issued | Author | Approved | Comments      |
|-----------------|-------------|--------|----------|---------------|
| A               | 08/09/2022  | KE     | IB       | Draft         |
| B               | 09/09/2022  | KE     | IB       | Final         |
| C               | 16/03/2023  | KE     | IB       | Final         |
| D               | 04/10/2024  | MS     | IB       | Draft         |
| E               | 07/10/2024  | MS     | IB       | Final         |
| F               | 18/10/2024  | MS     | IB       | Final         |
| G               | 07/04/2025  | MS     | IB       | DTP Lodgement |

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# 1. Introduction

## Project Information

GIW Environmental Solutions Pty Ltd ("GIW") has been engaged by Perpetual Corporate Trust Ltd ATF Yield Plus Infrastructure Property Fund No. 2 Trust 2B Ownership Trust No. 5 to provide Environmentally Sustainable Design (ESD) consulting services for the proposed mixed-use development at 675 Victoria Street, Abbotsford.

The proposed development will include 123 apartments, communal amenity spaces, community facility and commercial tenancy constructed over 14 levels plus basement carparking and will consist of the following:

- 21 x 1-bedroom apartments
- 67 x 2-bedroom apartments
- 35 x 3-bedroom apartments
- 278m<sup>2</sup> communal amenity spaces
- 122m<sup>2</sup> community facility
- 287m<sup>2</sup> commercial

The site located at 675 Victoria Street, Abbotsford has an approximate surface area of 3,459m<sup>2</sup> and is currently the location of a commercial building. Distance from the site to Melbourne CBD is approximately 5km.

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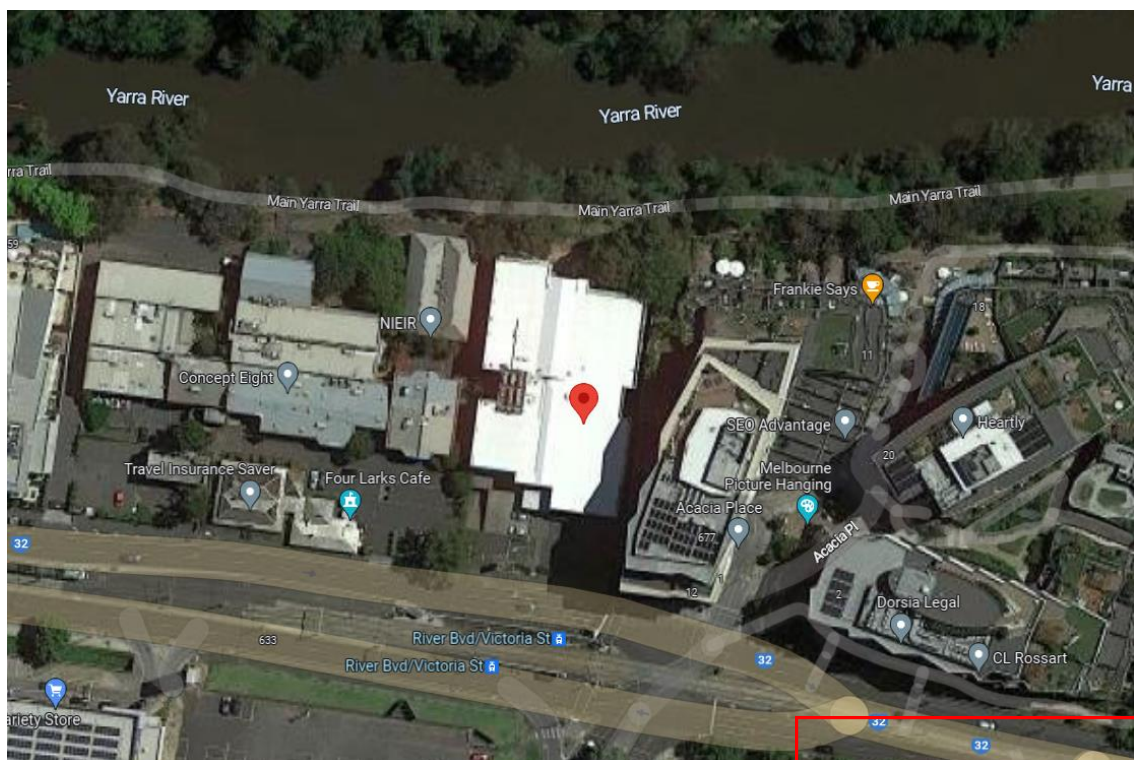


Figure 1 - Pre-existing sites at 675 Victoria Street, Abbotsford.

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## Statutory Requirements

This Sustainable Management Plan (SMP) has been prepared to inform the Department of Transport and Planning (DTP) of the proposed development's sustainability credentials and performance targets. The project team is committed to achieving a building solution which responds to City of Yarra Planning Scheme - Clause 15.01-2L-01 Environmentally Sustainable Development.

| Development Type                     | Application Requirement              | Example Tools                        |
|--------------------------------------|--------------------------------------|--------------------------------------|
| Development of 10 or more dwellings. | Sustainability Management Plan (SMP) | BESS<br>Green Star<br>MUSIC<br>STORM |

## Built Environment Sustainability Scorecard (BESS)

The proposed mixed-use development will be assessed against the Built Environment Sustainability Scorecard (BESS) guidelines. The BESS tool addresses nine key environmental categories as follows:



Figure 2 - BESS Environmental Categories ([www.bess.net.au](http://www.bess.net.au))

All ESD measures described under the nine key environmental categories are to be suitably incorporated into relevant project documentation at the appropriate project phase.

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## Responsibilities & Implementation

Perpetual Corporate Trust Ltd ATF Yield Plus Infrastructure Property Fund No. 2 Trust 2B Ownership Trust No. 5 will be responsible for the suitable implementation of the requirements of this report throughout the design and development phases. Should the development be sold the responsibility will pass to the new owner. At such time as a builder is novated or a building contract is put in place the builder will be responsible for implementation during the construction phase. At occupancy, the Owners Corporation and individual lot owners and or tenants will be responsible for the correct use of installed equipment and building systems in line with the provided Building User's Guide.

## Sources of Information

The following 'Sources of Information' have been used to guide the design solutions:

- SJB Architects – Project No. 21582 – 675 Victoria Street, Abbotsford – DTP Lodgement (Dated: March 2025).
- Municipal Association of Victoria - SDAPP Explained; Building Design for a Sustainable Future
- Built Environment Sustainability Scorecard (BESS)
- CSIRO 1999, Urban Stormwater – Best Practise Environmental Management Guidelines

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## 2. ESD Summary

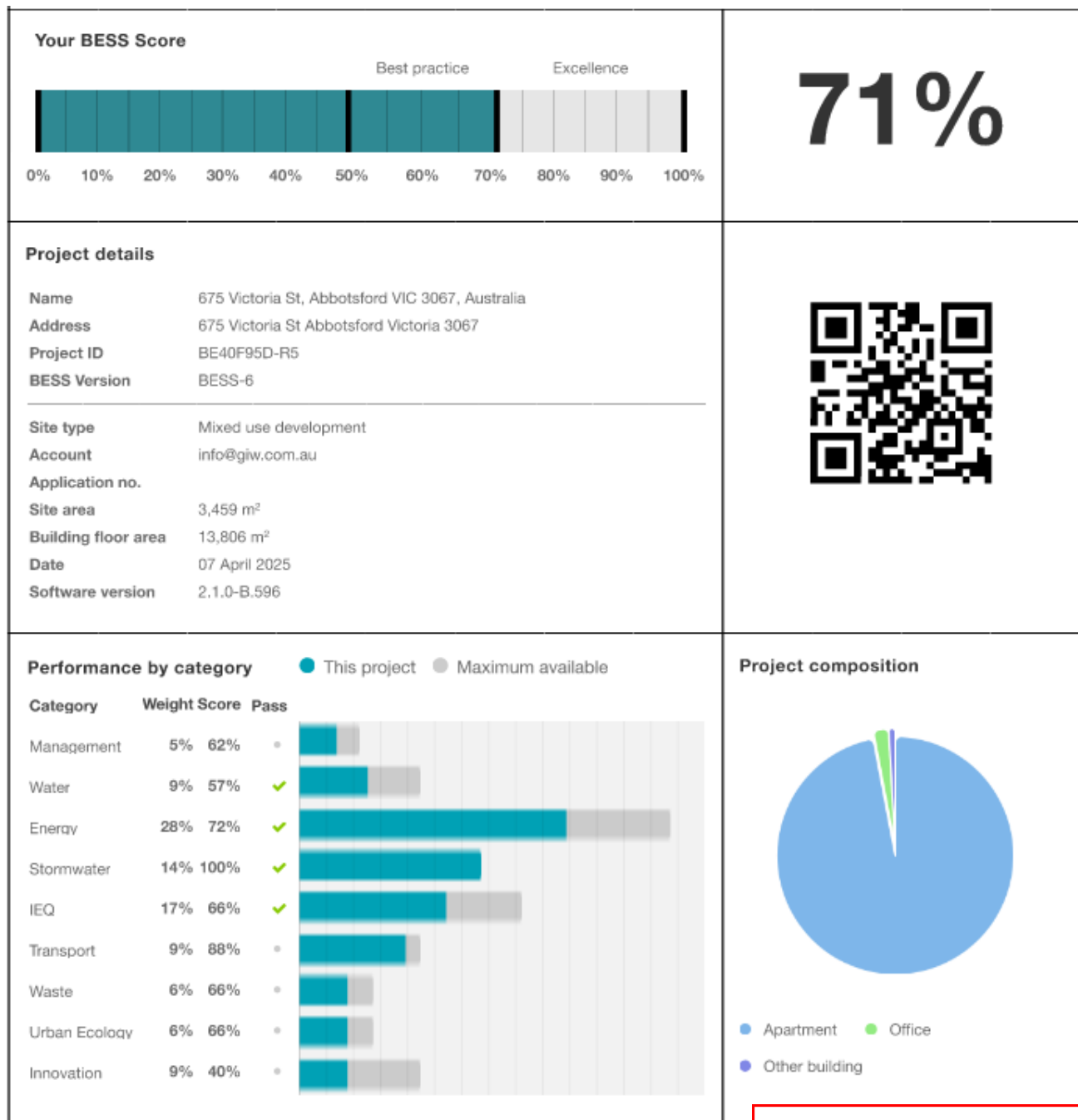
The proposed mixed-use development at 675 Victoria Street, Abbotsford will implement the following ESD initiatives:

1. The project achieves a total BESS score of 71% with no mandatory category (IEQ, Energy, Water, Stormwater) below 50%.
2. 50% (62 out of 123) of the development's apartments are naturally cross-ventilated.
3. Daylight modelling has been conducted for a representative sample of apartments. The summary result is as follows:
  - 81% of living floor area achieves >90% above DF 1
  - 84% of bedroom floor area achieves >90% above DF0.5
4. The non-residential areas are targeting a 2% DF to 60% of the nominated area.
5. 33% (41 out of 123) of apartments achieve at least 3 hours of sunlight.
6. The development is provided with a comprehensive shading strategy.
7. The development is to achieve a 7.5 Star average NatHERS Energy Rating result.
8. The non-residential areas aim to reduce heating and cooling energy consumption 5% below the reference case (BCA Section J 2019).
9. The development is to utilise an electric heat pump hot water system with a minimum COP of 2.5.
10. A 30kW Solar PV system is to be located on the roof of the proposed development.
11. Individual cold and hot water, electricity meters will be provided to the apartments and communal areas.
12. Water efficient fittings and fixtures are applied throughout.
13. A 20,000-litre rainwater tank will harvest rainwater from all roof areas. The tank will be connected to all ground to level 2 toilets and landscape irrigation.
14. A Melbourne STORM rating of 101% is achieved.
15. Landscape irrigation demand will be connected to the rainwater tank only.
16. In total 124 bicycle spaces are to be provided for residents.
17. In total 25 bicycle spaces are to be provided for residential visitors.
18. In total 6 bicycle spaces are to be provided for employees & 3 bicycle spaces are to be provided for non-residential visitors.
19. All balconies or private open space have been provided with a tap and floor waste allowing residents to cultivate their own gardens.
20. 278m<sup>2</sup> of communal space will be provided at lower ground.

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### 3. BESS Performance

The project achieves a total BESS score of 71% with no mandatory category (IEQ, Energy, Water, Stormwater) below 50%. This figure represents a percentage improvement over a benchmark project. A score of 50% and higher equates to 'best practice' and is an effective pass of the BESS tool. A score of 70% and higher equates to BESS 'excellence' and exists as a higher benchmark in the tool.



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## 4. ESD Assessment

### Management

Council ESD objectives:

- To encourage a holistic and integrated design and construction process and ongoing high performance.

### Council Best Practice Standard

| Criteria                | Construction and Building Management Actions                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pre-Application Meeting | To ensure appropriate sustainable design principles and strategies are considered from the preliminary design stage of each development. | GIW has been actively involved in the preliminary design stage but has not been involved in a pre-application meeting with Council or DTP.                                                                                                                                                                                                                                                                                                                                                                                                         |
| Metering                | To provide building users with information that allows monitoring of energy and water consumption                                        | Electricity and cold-water metering is to be provided to each individual apartment and commercial tenancy.<br><br>Lighting and general power to common areas is to be separately metered to quantify energy used for common areas spaces.                                                                                                                                                                                                                                                                                                          |
| Building User's Guide   | To encourage and recognise initiatives that will help building users to use the building more efficiently.                               | A Building User's Guide will be provided to all occupants explaining the correct use of installed equipment and building systems. This shall cover at a minimum: <ul style="list-style-type: none"> <li>• Energy and Environmental Strategy</li> <li>• Options for purchasing a ≥3 Star Washing Machine</li> <li>• Monitoring and Targeting</li> <li>• Building Services</li> <li>• Transport Facilities</li> <li>• Materials and Waste Policy</li> <li>• Expansion/Re-fit Considerations</li> <li>• References and Further Information</li> </ul> |

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### Council Best Practice Standard

| Criteria                      |                                                                                                               | Construction and Building Management Actions                                                                                                                                                            |
|-------------------------------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Head Contractor               | To encourage sustainable building practices.                                                                  | Head Contractor having ISO 14001 accreditation in place will be positively weighted as part of the selection process. Nil mandatory requirement for selected Head Contractor to be ISO14001 accredited. |
| Building Tuning               | To ensure systems operate efficiently to reduce energy consumption and increase cost savings.                 | A 12-month tuning commitment for all building services in accordance with the manufacturer's specifications will be undertaken.                                                                         |
| Environmental Management Plan | To mitigate environmental impacts and ensure compliance with regulations throughout the construction process. | An Environmental Management Plan (EMP) will be implemented to Council guidelines prior to construction.                                                                                                 |

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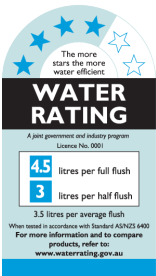



## Water

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Council ESD objectives:

- To ensure the efficient use of water
- To reduce total operating potable water use
- To encourage the collection and reuse of stormwater
- To encourage the appropriate use of alternative water sources (e.g. grey water)
- To minimize associated water costs

## Council Best Practice Standard

| Criteria                                                                                                                                                                      | Development Provision                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Potable Water Reduction</p> <p>To reduce total potable water, use due through the use of efficient fixtures, appliances, and the use of rainwater.</p>                     | <div> <div>WELS 4 Star - Toilets</div>  </div> <div> <div>WELS 6 Star - Taps</div>  </div> <div> <div>WELS 4 Star - Showerhead</div>  </div> <div> <div>WELS 5 Star - Dishwasher</div>  </div> |
| <p>Rainwater Collection &amp; Reuse</p>                                                                                                                                       | <p>A 20,000-litre rainwater tank will harvest rainwater from all roof areas. The tank will be connected to all ground to level 2 toilets and landscape irrigation. It is estimated that this will save more than 278kL of potable water every year and meet 14.5% of the demand in these areas.</p> <p>Stormwater drainage mechanism is to be determined by the hydraulics services engineer at the design development phase.</p> <p>Refer Appendix A – WSUD Response</p>                                                                   |
| <p>Landscape Irrigation</p> <p>To ensure the efficient use of water and to reduce total operating potable water use through encouraging water efficient landscape design.</p> | <p>Landscape irrigation demand will be connected to the rainwater tank only.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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## Council Best Practice Standard

| Criteria                            | Development Provision                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Building System Water Use Reduction | <p>Ensure the efficient use of water, to reduce total operating potable water use and to encourage the appropriate use of alternative water sources for cooling and fire testing systems.</p> <p>&gt;80% of fire test water (e.g. hydrant pump test water or SCV annubar test) is to be reused on site.</p> <p>The proposed development is to incorporate air-cooled HVAC systems for both the residential and non-residential areas within the development.</p> |

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## Energy

Council ESD objectives:

- To ensure the efficient use of energy
- To reduce total operating greenhouse emissions
- To reduce energy peak demand
- To reduce associated energy costs

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### Council Best Practice Standard

## ADVERTISED PLAN

#### Criteria

#### Development Provision

The National Construction Code (NCC) Class 2 – Sole Occupancy Unit(s) residential building component is to be designed in accordance with NCC Section J (2019) NatHERS requirements. The residential units must achieve an average 7.5 Star rating, with no unit achieving below 5 Stars.

Further to this no dwelling is to exceed the maximum allowed cooling load of 30 MJ/m<sup>2</sup> (Climate Zone 21 Melbourne R0) In accordance with BADS Standard B35.

The apartments are currently achieving a 7.6 Star average. This represents > 10% reduction compared to minimum NCC compliance benchmarks. The below sample ratings demonstrate the developments' ability to achieve this average. Refer Appendix A for Preliminary FirstRate5 Certificates.

Thermal Performance Rating - Residential

To reduce energy needed to achieve thermal comfort in summer and winter - improving comfort, reducing greenhouse gas emissions, energy consumption, and maintenance costs.

| Apartment No.  | ACE Total MJ/M2 | ACE Heating g | ACE Cooling | ACE NCFA     | Star Rating |
|----------------|-----------------|---------------|-------------|--------------|-------------|
| G.07           | 52.3            | 38.4          | 13.9        | 81.8         | 8.1         |
| 1.07           | 36.5            | 28.4          | 8.1         | 143.7        | 8.6         |
| 2.03           | 90.7            | 63            | 27.7        | 73.4         | 6.7         |
| 3.02           | 65.3            | 49.7          | 15.6        | 45.5         | 7.6         |
| 3.03           | 95.6            | 73            | 22.6        | 74.8         | 6.6         |
| 4.09           | 67.2            | 54.2          | 13          | 142.6        | 7.5         |
| 7.03           | 46.1            | 34.1          | 12          | 86.2         | 8.3         |
| 10.04          | 73.5            | 56.8          | 16.7        | 212.4        | 7.3         |
| <b>Average</b> | <b>65.9</b>     | <b>49.7</b>   | <b>16.2</b> | <b>107.6</b> | <b>7.6</b>  |

\*Apartments are assessed using FirstRate5 v5.3.2a

Construction assumptions for preliminary FirstRate5 ratings are listed below. Note, these assumptions are based on the sample



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| Criteria | Development Provision                                                                                                                                              |                                                                            |                                                                                                                                                                                      |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | of apartments assessed and may vary throughout the development. These assumptions are not to be relied upon for any other purpose beyond Town Planning assessment. |                                                                            |                                                                                                                                                                                      |
|          | Element                                                                                                                                                            | Material                                                                   | Insulation Value                                                                                                                                                                     |
|          | Floor – unconditioned /exposed below                                                                                                                               | Concrete                                                                   | R2.35                                                                                                                                                                                |
|          | External Walls                                                                                                                                                     | Concrete                                                                   | R2.5                                                                                                                                                                                 |
|          | Internal Partition Walls                                                                                                                                           | Lightweight plasterboard                                                   | R1.8                                                                                                                                                                                 |
|          | Concrete Slab – where exposed above                                                                                                                                | Concrete                                                                   | R2.35                                                                                                                                                                                |
|          | Roof                                                                                                                                                               | Concrete                                                                   | R4.6                                                                                                                                                                                 |
|          | Sliding Doors                                                                                                                                                      | Aluminium framed, double glazed, argon filled, low-e, clear                | Total System <ul style="list-style-type: none"> <li>• U-Value <math>\leq 3.19</math></li> <li>• SHGC: <math>0.48 \pm 5\%</math></li> <li>• VLT: <math>0.55 \pm 5\%</math></li> </ul> |
|          | Fixed Windows                                                                                                                                                      | Aluminium framed, double glazed, argon filled, low-e, clear                | Total System <ul style="list-style-type: none"> <li>• U-Value <math>\leq 2.71</math></li> <li>• SHGC: <math>0.58 \pm 5\%</math></li> <li>• VLT: <math>0.62 \pm 5\%</math></li> </ul> |
|          | Awning Windows                                                                                                                                                     | Aluminium framed, double glazed, argon filled, low-e, clear                | Total System <ul style="list-style-type: none"> <li>• U-Value <math>\leq 4.42</math></li> <li>• SHGC: <math>0.41 \pm 5\%</math></li> <li>• VLT: <math>0.41 \pm 5\%</math></li> </ul> |
|          | Sliding Doors (L10 and L11 only)                                                                                                                                   | Aluminium framed, double glazed, argon filled, low-e, spectrally selective | Total System <ul style="list-style-type: none"> <li>• U-Value <math>\leq 2.79</math></li> <li>• SHGC: <math>0.24 \pm 5\%</math></li> <li>• VLT: <math>0.54 \pm 5\%</math></li> </ul> |
|          | Fixed Windows (L10 and L11 only)                                                                                                                                   | Aluminium framed, double glazed,                                           | Total System <ul style="list-style-type: none"> <li>• U-Value <math>\leq 2.65</math></li> </ul>                                                                                      |

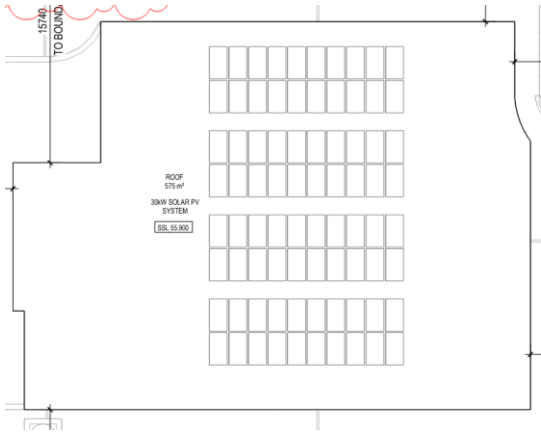
## Council Best Practice Standard

| Criteria                                     | Development Provision                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                  |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
|                                              |                                                                                                                                                                            | argon filled, low-e, spectrally selective                                                                                                                                                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>• SHGC: 0.25±5%</li> <li>• VLT: 0.54±5%</li> </ul>                                        |
|                                              | Awning Windows (L10 and L11 only)                                                                                                                                          | Aluminium framed, double glazed, argon filled, low-e, spectrally selective                                                                                                                                                                                                                                                                                                   | Total System <ul style="list-style-type: none"> <li>• U-Value ≤ 3.60</li> <li>• SHGC: 0.19±5%</li> <li>• VLT: 0.47±5%</li> </ul> |
| Thermal Performance Rating – Non-Residential | To reduce energy needed to achieve thermal comfort in summer and winter - improving comfort, reducing greenhouse gas emissions, energy consumption, and maintenance costs. | <p style="text-align: center;"><b>ADVERTISED PLAN</b></p> <p>The non-residential areas aim to reduce heating and cooling energy consumption 5% below the reference case (BCA Section J 2019). Refer Appendix E for Preliminary Façade Calculation.</p>                                                                                                                       |                                                                                                                                  |
| Peak Energy Demand                           | To reduce demand on electrical infrastructure during peak cooling periods.                                                                                                 | A high-performance thermal envelope in conjunction with high efficiency HVAC systems and lighting systems reduce energy demand at peak times.                                                                                                                                                                                                                                |                                                                                                                                  |
| HVAC System                                  | To ensure the efficient use of energy and to reduce consumption of electricity.                                                                                            | <p>Inverter split systems are to be installed and sized to maintain conditions of the main living space of each apartment. The efficiency of the air conditioning system is to be within 1 star rating of best available under MEPS Post-October 2012 measurement standard.</p> <p>VRV / VRF systems with a COP of 3.4 are to be installed to the non-residential areas.</p> |                                                                                                                                  |
| Hot Water System                             | To ensure the efficient use of energy and to reduce consumption and greenhouse                                                                                             | The development is to utilise a centralised electric heat pump hot water system with a minimum COP of 2.5                                                                                                                                                                                                                                                                    |                                                                                                                                  |

## Council Best Practice Standard

| Criteria                            | Development Provision                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                     | emissions from water heating.                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Car Park Ventilation                | To ensure the efficient use of energy, reduce total operating greenhouse gas emissions and to reduce energy peak demand.                                         | <p>Carpark ventilation fans are driven by a VSD motor connected to CO sensors within the carpark. The inclusion of CO sensor control will allow the ventilation fans to ramp down when the car park is unoccupied. The system is to be designed in accordance with AS1668.2.</p> <p>The mechanical services engineer is responsible for the design and specification of the system. The contractor is to procure and install the specified system.</p> <p>Maintenance requirements of the CO sensor system are to be included in the O&amp;M manual.</p>                                                                                                           |
| Clothes Drying                      | Ensure the efficient use of energy and to reduce energy consumption and greenhouse emissions associated with clothes drying                                      | <p>NIL</p> <div style="border: 2px solid red; padding: 10px; color: red; text-align: center;"> <p><b>This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright</b></p> </div>                                                                                                                                                                                                                                                                                |
| Internal Lighting - Residential     | To ensure the efficient use of energy, to reduce energy consumption, greenhouse emissions associated with artificial lighting, and to reduce energy peak demand. | <p>The maximum illumination power density (W/sqm) is at least 20% lower than NCC 2019 requirements.</p> <p>Lighting power density shall be as follows:</p> <ul style="list-style-type: none"> <li>• Dwellings: No greater than average 4W/m<sup>2</sup></li> <li>• Common areas in a Class 2 Building: No greater than average 4.5W/m<sup>2</sup></li> <li>• POS: No greater than average 4W/m<sup>2</sup></li> <li>• Back of house and indoor car parks: No greater than average 5W/m<sup>2</sup></li> </ul> <p>All common area, external and carpark lighting is to be controlled with daylight, motion sensors or timers (whichever is deemed appropriate).</p> |
| Internal Lighting – Non-Residential | To ensure the efficient use of energy, to reduce energy consumption,                                                                                             | <p>The maximum illumination power density (W/m<sup>2</sup>) in the non-residential areas meets the requirements of Table J6.2a of the NCC 2019 Section J.</p> <p>Lighting power density shall be as follows:</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

## Council Best Practice Standard

| Criteria                                                                                    | Development Provision                                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| greenhouse emissions associated with artificial lighting, and to reduce energy peak demand. | <ul style="list-style-type: none"> <li>Commercial/community facility: No greater than average 4.5W/m<sup>2</sup></li> </ul>                                                                                                                             |
| Renewable Energy Systems - Solar                                                            | <p>To encourage on-site renewable energy generation and reduce greenhouse emissions.</p>  <p>Location Solar PV System</p> <p>Refer Appendix C – Renewable Energy</p> |

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**ADVERTISED PLAN**

## Stormwater

Council ESD objectives:

- To reduce the impact of stormwater run-off
- To improve the water quality of stormwater run-off
- To achieve best practice stormwater quality outcomes
- To incorporate water sensitive urban design principles

### Council Best Practice Standard

| Criteria             | Development Provision                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Stormwater Treatment | <p>The Melbourne Water - Stormwater Treatment Objective Relative Measure (STORM) tool has been applied to determine performance relative to Best Practice Environmental Management Guidelines (Victoria Stormwater Committee, 1999). As per City of Yarra Planning Scheme - Clause 22.16 Stormwater Management (Water Sensitive Urban Design), the development is required to achieve a STORM rating of 100% or greater.</p> <p>To minimise negative environmental impacts of stormwater runoff and maximise onsite re-use of stormwater.</p> <p>A Melbourne STORM rating of 101% is achieved via the following:</p> <ul style="list-style-type: none"> <li>• Rainwater is to be collected from all roof areas and is to be directed into a 20,000-litre rainwater tank. All ground to level 2 toilets is to be connected to the rainwater tank and landscape irrigation.</li> <li>• Rainwater that is collected from L10, 3.06-3.08 and 1.07-1.09 terraces is to be directed into a <math>\geq 25\text{m}^2</math>, minimum 950mm deep raingarden with 100mm of extended detention.</li> </ul> <p>Refer Appendix A – WSUD Response.</p> |

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## ADVERTISED PLAN

### Indoor Environment Quality

Council ESD objectives:

- to achieve a healthy indoor environment quality for the wellbeing of building occupants.
- to provide a naturally comfortable indoor environment will lower the need for building services, such as artificial lighting, mechanical ventilation and cooling and heating devices.

### Council Best Practice Standard

| Criteria                          |                                                                                            | Development Provision                                                                                                                                                                                                                                                                                                                                                                          |                                      |
|-----------------------------------|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| Daylight Access - Residential     | To provide a high level of amenity and energy efficiency through design for natural light. | Daylight modelling has been conducted for a representative sample of apartments. The summary result is as follows:                                                                                                                                                                                                                                                                             |                                      |
|                                   |                                                                                            | % of living floor area above DF 1.0                                                                                                                                                                                                                                                                                                                                                            | % of bedroom floor area above DF 0.5 |
|                                   |                                                                                            | 81%                                                                                                                                                                                                                                                                                                                                                                                            | 84%                                  |
|                                   |                                                                                            | Refer Appendix D - Daylight Modelling.                                                                                                                                                                                                                                                                                                                                                         |                                      |
| Winter Sunlight                   | To provide a high level of amenity and reduce need for artificial heating in winter.       | 33% (41 out of 123) of apartments achieve at least 3 hours of sunlight.                                                                                                                                                                                                                                                                                                                        |                                      |
| Daylight Access – Non-Residential | To provide a high level of amenity and energy efficiency through design for natural light. | The non-residential areas are targeting a 2% DF to 60% of the nominated area.                                                                                                                                                                                                                                                                                                                  |                                      |
| Minimal Internal Bedrooms         | 90% of bedrooms have an external window.                                                   | NIL internal bedrooms.                                                                                                                                                                                                                                                                                                                                                                         |                                      |
| Effective Natural Ventilation     | To provide fresh air and passive cooling opportunities.                                    | 50% (62 out of 123) of the development's apartments are naturally cross-ventilated. Apartments are provided with windows on opposite or adjacent facades or are effective single sided ventilated.                                                                                                                                                                                             |                                      |
|                                   |                                                                                            | Additionally, mechanically assisted natural ventilation is provided to min. 12 single aspect apartments across level 7-9 to meet the 60% natural ventilation threshold within BESS. The units to be provided with mechanically assisted natural ventilation include Type A06 (7.09, 8.09 & 9.09), Type B17 (7.03, 8.03 & 9.03), Type B18 (7.04, 8.04 & 9.04) and Type B19 (7.08, 8.08 & 9.08). |                                      |

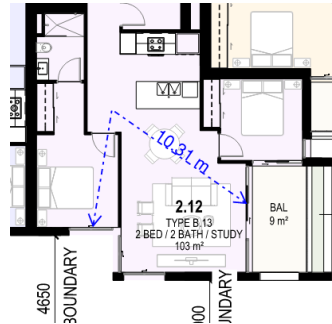
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## Council Best Practice Standard

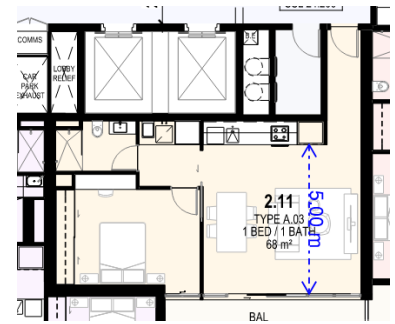
### Criteria

### Development Provision

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Typical natural cross-ventilated apartment



Typical single-sided ventilated apartment

Ventilation –  
Non-  
Residential

To provide fresh air and passive cooling opportunities.

100% of the commercial area is effectively naturally ventilated. This is to be included in the mechanical design and specifications.

The development is provided with a comprehensive shading strategy:



Majority of the eastern façade apartments are shaded by a combination of overhanging slab above and wing walls.



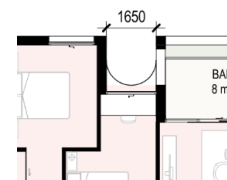
Western-facing apartments on ground to level 3 are provided with brick walls for shading.

Thermal  
Comfort

To provide comfortable indoor spaces and reduce energy needed for heating and cooling.



Hit & miss brickwork to several apartment balconies and windows at ground to level 2.



1,800mm wing walls provide shading for snorkel bedrooms throughout the development.

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PLAN**

## Council Best Practice Standard

### Criteria

### Development Provision

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All north, west, and east recessed windows are shaded by the overhanging balcony or roof of the floor above.

West, and east bedroom windows have been sized to limit solar gains.

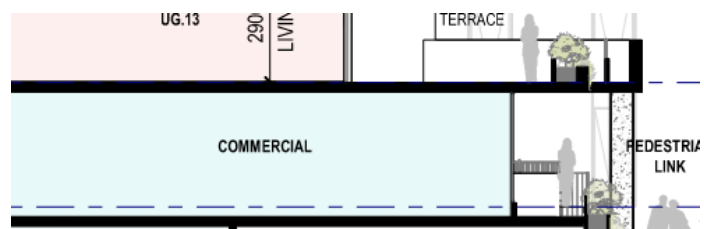


L10-L11 are provided with spectrally selective glazing to limit solar heat gains.

Thermal  
Comfort –  
Non-  
Residential

To provide comfortable indoor spaces and reduce energy needed for heating and cooling.

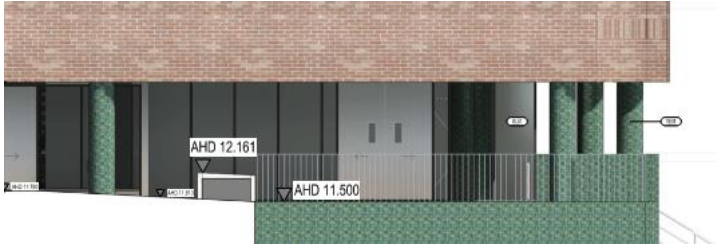
The development is provided with a comprehensive shading strategy:



Majority of the commercial windows are shaded by the overhanging slab of the level above.

**ADVERTISED  
PLAN**

## Council Best Practice Standard

| Criteria                      | Development Provision                                                                                                                                                                                                                                              |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                               |  <p>All of the commercial community facility windows at LG are shaded by the overhanging slab of the level above.</p>                                                            |
| Air Quality – Non-Residential | <p>All paints and adhesives meet the maximum total indoor pollutant emission limits.</p> <p>All internally applied paints adhesives and sealants are to have a low or ultra-low VOC content in line with Green Star Buildings V1 Credit 13 Exposure to Toxins.</p> |
|                               | <p>All carpet meets the maximum total indoor pollutant emission limits.</p> <p>All internally applied carpets are to have a low VOC content in line with Green Star Buildings V1 Credit 13 Exposure to Toxins.</p>                                                 |
|                               | <p>All engineered wood meets the maximum total indoor pollutant emission limits.</p> <p>All internally applied engineered wood products are to have low formaldehyde levels in line with Green Star Buildings V1 Credit 13 Exposure to Toxins.</p>                 |

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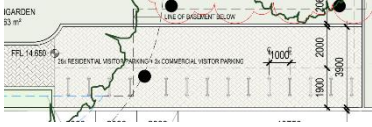

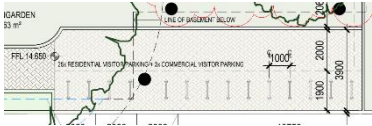
## Transport

# ADVERTISED PLAN

Council ESD objectives:

- To minimise car dependency.
- To ensure that the built environment is designed to promote the use of public transport, walking and cycling.


## Council Best Practice Standard

| Criteria                                                     | Development Provision                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bicycle Parking – Residential & Residential Visitors         | <p>To encourage and recognise initiatives that facilitate cycling.</p>   <p>In total 124 bicycle spaces are to be provided for residents. This will provide a ratio of approximately 1 resident bicycle space for every apartment.</p> <p>In total 25 bicycle spaces are to be provided for residential visitors. This will provide a ratio of approximately 1 visitor bicycle space for every 5 apartments.</p> |
| Bicycle Parking – Non-Residential & Non-Residential Visitors | <p>To encourage and recognise initiatives that facilitate cycling.</p>   <p>In total 6 bicycle spaces are to be provided for employees.</p> <p>In total 3 bicycle spaces are to be provided for non-residential visitors.</p>                                                                                                                                                                                 |

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## Council Best Practice Standard

| Criteria                                        | Development Provision                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>End of Trip Facilities – Non-Residential</p> | <p>To minimise car dependency and to ensure that the built environment is designed to promote the use of public transport, walking, and cycling.</p> <p>NIL</p> <p><b>ADVERTISED PLAN</b></p>                                                                                                                                                                                                                                                                                                                                           |
| <p>Electric Vehicle Infrastructure</p>          | <p>In total 9 x charging point for electrical vehicles is integrated in the proposed development.</p> <p>To minimise car dependency and to ensure that the built environment is designed to promote the use of public transport, walking, and cycling.</p>  <p>Location of electric charging point.</p> <p>Future infrastructure for electrical charging points is incorporated in the services design.</p>                                         |
| <p>Car Share Scheme</p>                         | <p>To minimise car dependency and to ensure that the built environment is designed to promote the use of public transport, walking, and cycling.</p> <p>NIL</p> <div style="border: 2px solid red; padding: 10px;"> <p><b>This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright</b></p> </div> |
| <p>Motorbikes / Mopeds</p>                      | <p>To minimise car dependency and to ensure that the built environment is designed to</p> <p>The proposed development will incorporate 26 motorbike / moped spaces in the basement carpark. This represents <math>\geq 5\%</math> of the total carparking.</p>                                                                                                                                                                                                                                                                          |

## Council Best Practice Standard

| Criteria | Development Provision                                                  |
|----------|------------------------------------------------------------------------|
|          | promote the use<br>of public<br>transport,<br>walking, and<br>cycling. |

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**ADVERTISED  
PLAN**

## ADVERTISED PLAN

### Materials

ESD objectives:

- Use of low embodied energy materials.
- Encourage use of recycled and reusable materials in building construction and undertake adaptive reuse of buildings, where practical.

### Council Best Practice Standard

| Criteria                         | Development Provision                                                                                                   |                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Embodied Energy                  | Limited use of high embodied energy metals and materials, especially in a design with intended high churn (e.g. retail) | <p>The design will seek to limit the use of high embodied energy metal finishes.</p> <p>At least 40% of coarse aggregate in the concrete is crushed slag aggregate or other alternative materials (measured by mass across all concrete mixes in the project).</p>                                                                         |
| Structural and Reinforcing Steel | Commitment to source structural and reinforcing steel from a responsible steel maker                                    | <p>The building's steel (by mass) is to be sourced from a Responsible Steel Maker with:</p> <ul style="list-style-type: none"> <li>• a currently valid and certified ISO 14001 Environmental Management System (EMS) in place; and</li> <li>• is a member of the World Steel Association's (WSA) Climate Action Programme (CAP)</li> </ul> |
| Sustainable Timber               | Commitment to source timber from sustainably managed source, with proof of audit trail.                                 | Where timber is to be used, such timbers are to accord with the GBCA's 'Essential' criteria for forest certification. This may include FSC and / or PEFC Certification which are both internationally recognised schemes ensuring that timber is sourced from sustainable sources. Alternatively, recycled timber will be used.            |
| PVC                              | Commitment to source best practice PVC products                                                                         | <p>Permanent formwork, pipes, flooring, blinds and cables in the project will seek to comply with the following:</p> <ul style="list-style-type: none"> <li>• Meet the GBCA's Best Practice Guidelines for PVC. or;</li> <li>• The supplier holds a valid ISO14001 certification.</li> </ul>                                               |
| Sustainable Products             | Commitment to source products that meet the transparency and sustainability requirements                                | The project will incorporate products that meet the transparency and sustainability requirements where deemed appropriate. This includes the following: reused products, recycled content products, environmental product declarations, third party certified and stewardship programs.                                                    |

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## Council Best Practice Standard

| Criteria               | Development Provision                                                                                                                                                                                                                               |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Design for Disassembly | <p>Commitment to minimise damage to recyclable materials by optimizing design and construction methods.</p> <p>Consideration will be given to the use of materials and construction methods that cause limited damaged to recyclable materials.</p> |

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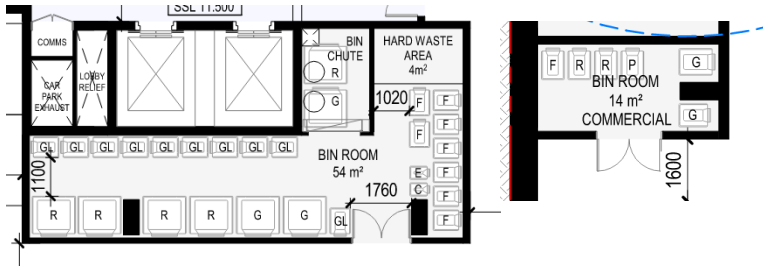
## ADVERTISED PLAN

### Waste Management

Council ESD objectives:

- To ensure waste avoidance, reuse and recycling during the design, construction, and operation stages of development.
- To ensure long term reusability of building materials.
- To meet Councils' requirement that all multi-unit developments must provide a Waste Management Plan in accordance with the *Guide to Best Practice for Waste Management in Multi-unit Developments 2010*, published by Sustainability Victoria.

### Council Best Practice Standard

| Criteria                          | Development Provision                                                                        |                                                                                                                                                                               |
|-----------------------------------|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Building Re-use                   | To ensure waste avoidance, reuse, and recycling during the design.                           | None of the existing structure is re-used.                                                                                                                                    |
| Construction and Demolition Waste | To reduce construction waste going to landfill                                               | At least 80% of the waste generated during construction and demolition has been diverted from landfill.                                                                       |
| Food & Garden Waste               | To ensure waste avoidance, reuse, and recycling during the operational life of the building. | Green waste storage is provided in the basement.                                                                                                                              |
| Convenience of Recycling          | To ensure waste avoidance, reuse, and recycling during the operational life of the building. |  <p>Separate general, glass and recycling waste storage will be provided at basement.</p> |

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## Urban Ecology

Council ESD objectives:

- To protect and enhance biodiversity.
- To provide sustainable landscaping.
- To protect and manage all remnant indigenous plant communities.
- To encourage the planting of indigenous vegetation.

## ADVERTISED PLAN

### Council Best Practice Standard

#### Criteria

#### Development Provision

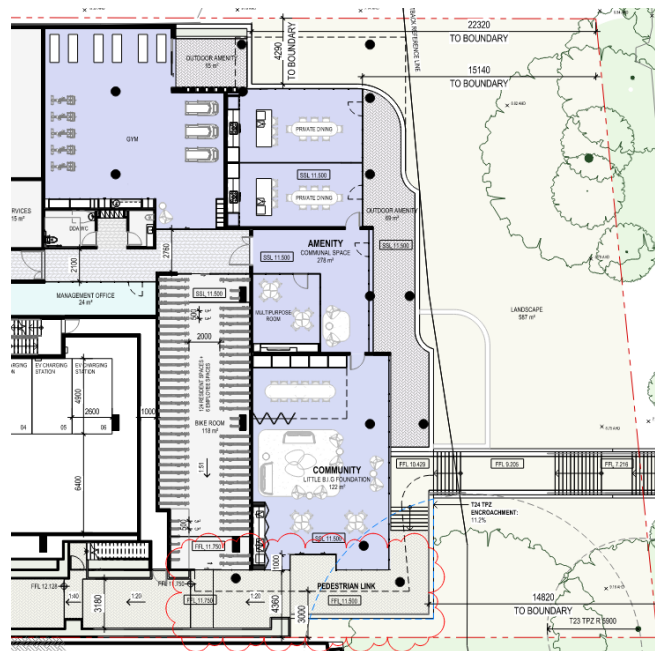
278m<sup>2</sup> of communal space will be provided at lower ground. Communal space will include the following amenities: Landscaped outdoor areas, terraces, multipurpose rooms, gym and private dining spaces.

Additionally, 672m<sup>2</sup> of outdoor amenity is provided.

#### Communal Space

To encourage and recognise initiatives that facilitate interaction between building occupants.

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Communal space will be provided at lower ground.

#### Vegetation

To encourage and recognise the use of vegetation and landscaping within and

Planter boxes are to be located at ground level within communal areas and will be located within apartments sporadically throughout the development.

Landscaped area is provided at lower ground adjacent to the Yarra River.

## Council Best Practice Standard

| Criteria                                         | Development Provision                                                                                                       |                                                                                                                                      |
|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
|                                                  | around developments.                                                                                                        | The total area of vegetation is 36% of the site area.                                                                                |
| Green Walls / Roof                               | To encourage the appropriate use of green roofs, walls, and facades to mitigate the impact of the urban heat island effect. | NIL                                                                                                                                  |
| Private Open Space - Balcony / Courtyard Ecology | To encourage plants in a healthy ecological context to be grown on balconies and in courtyards.                             | All balconies or private open space have been provided with a tap and floor waste allowing residents to cultivate their own gardens. |
| Food Production - Residential                    | To encourage the production of fresh food on-site.                                                                          | NIL                                                                                                                                  |
| Heat Island Effect                               | To reduce the contribution of the project site to the 'heat island effect                                                   | Roof are to have a three year SRI of minimum 80.<br>Unshaded hard-scaping elements are to have a three year SRI of minimum 40.       |

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## Innovation

# ADVERTISED PLAN

Council ESD objectives:

- To encourage innovative technology, design, and processes in all development, which positively influence the sustainability of buildings.

## Council Best Practice Standard

| Criteria                  | Development Provision                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Carbon Neutral Commitment | <p>To reduce greenhouse gas emissions produced by the development and its occupants.</p> <p>NIL gas connection for the apartments and all electric services.</p> <p>Targeting a min. 7 Star average energy rating result.</p> <p>The proposed development will be established with a carbon neutral power agreement between developer, owner's corporation, and electrical retailer to provide GreenPower for all energy consumed by building (including communal areas, apartments and commercial tenancies). It is the intent to maintain this agreement for a minimum of 10 years.</p> <p>Additionally, the development is committed to provide on-site renewable energy generation to meet minimum of 5% of electricity consumed by residents at the site per the Embedded Networks Review.</p> |
| ESD Verification          | <p>To ensure all ESD initiatives committed to within the town planning process are applied to the development.</p> <p>An ESD professional will be engaged throughout the design and construction process. The ESD professional will perform a minimum of 2 site inspections during the construction phase to ensure suitable implementation of the ESD initiatives. Any deficiencies compared to the endorsed SMP will be escalated to the project manager and resolved.</p>                                                                                                                                                                                                                                                                                                                        |
| Social Innovation         | <p>To enhance social health and wellbeing within the development for its occupants and wider community.</p> <p>The development will seek to implement a community portal and activity schedule to enhance the social interactions of its occupants within the building's communal spaces.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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## Appendices

### Appendix A: WSUD Response

#### Site layout Plan

The following architectural mark-up illustrates the rainwater collection and impervious areas of the proposed development site.

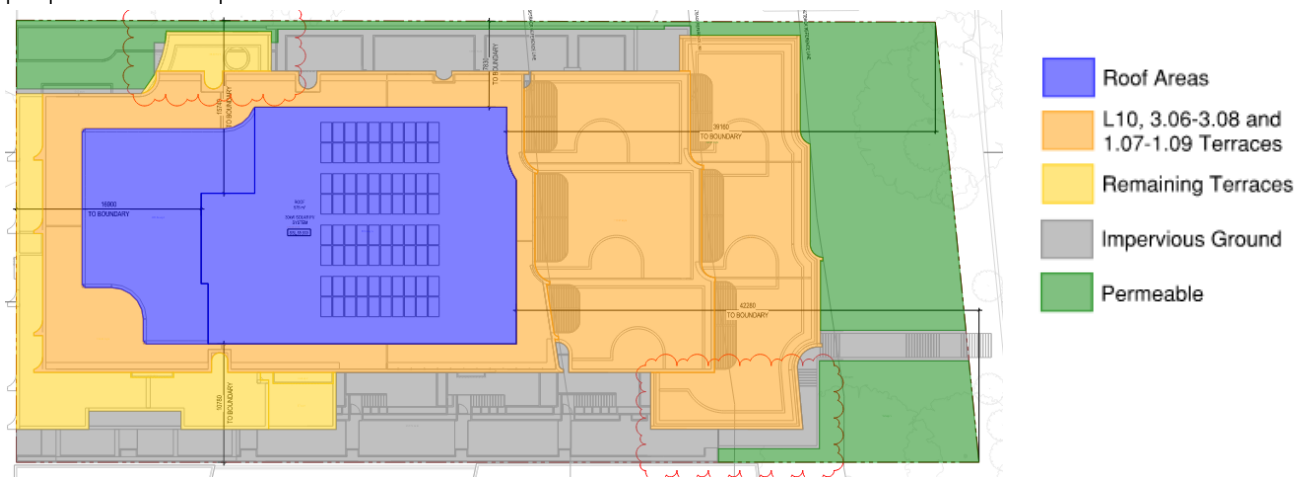


Figure 3 - Markup of water catchment and impervious areas.

#### STORM Rating Report

A STORM rating of  $\geq 100\%$  can be achieved by implementing the following initiatives:

- Rainwater is to be collected from all roof areas and is to be directed into a 20,000-litre rainwater tank. All ground to level 2 toilets is to be connected to the rainwater tank and landscape irrigation.
- Rainwater that is collected from L10, 3.06-3.08 and 1.07-1.09 terraces is to be directed into a  $\geq 25\text{m}^2$ , minimum 950mm deep raingarden with 100mm of extended detention.

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Melbourne Water has developed the Stormwater Treatment Objective- Relative Measure (STORM) Calculator as a method of simplifying the analysis of stormwater treatment methods. The STORM Calculator displays the amount of treatment that is required to meet best practice targets, using WSUD treatment measures.

The best practice standards have been set out in the Urban Stormwater Best Practice Environmental Management Guidelines (Victoria Stormwater Committee, 1999) for reduction in total suspended solids (TSS), total phosphorus (TP) and total nitrogen (TN) loads.

The STORM Result is provided below:



## STORM Rating Report

**ADVERTISED  
PLAN**

TransactionID: 0  
Municipality: YARRA  
Rainfall Station: YARRA  
Address: 675 Victoria Street  
Abbotsford  
VIC 3067  
Assessor: GIW  
Development Type: Residential - Mixed Use  
Allotment Site (m2): 3,459.00  
STORM Rating %: 101

| Description                           | Impervious Area (m2) | Treatment Type   | Treatment Area/Volume (m2 or L) | Occupants / Number Of Bedrooms | Treatment % | Tank Water Supply Reliability (%) |
|---------------------------------------|----------------------|------------------|---------------------------------|--------------------------------|-------------|-----------------------------------|
| Roof Areas                            | 797.00               | Rainwater Tank   | 20,000.00                       | 100                            | 164.00      | 80.00                             |
| L10, 3.06-3.08 and 1.07-1.09 Terraces | 1,210.00             | Raingarden 100mm | 25.00                           | 0                              | 128.40      | 0.00                              |
| Remaining Terraces                    | 239.00               | None             | 0.00                            | 0                              | 0.00        | 0.00                              |
| Impervious Ground                     | 578.00               | None             | 0.00                            | 0                              | 0.00        | 0.00                              |

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## ADVERTISED PLAN

### WSUD Strategy

The development will include the provision of a 20,000-litre rainwater tank and associated pump in the basement garage. The rainwater tank is to be connected to all ground to level 2 toilets and landscape irrigation.

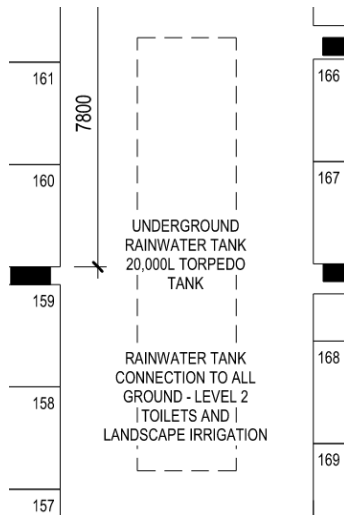


Figure 4 – Location Rainwater Tank

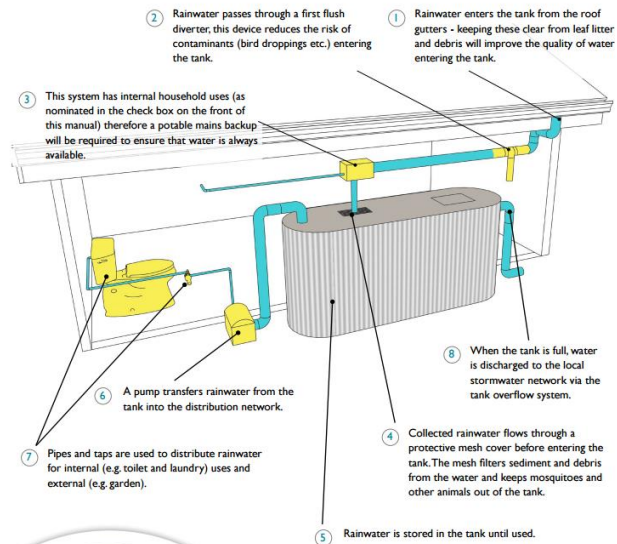


Figure 5 – Cross-section Tank (City of Port Phillip)

Furthermore, a  $\geq 25\text{m}^2$  minimum 950mm deep raingarden with 100mm of extended detention is to be provided. Rainwater collected from L10, 3.06-3.08 and 1.07-1.09 terraces is to be directed into the raingarden for treatment prior to discharge into the stormwater system.



Figure 6 – Location Raingarden

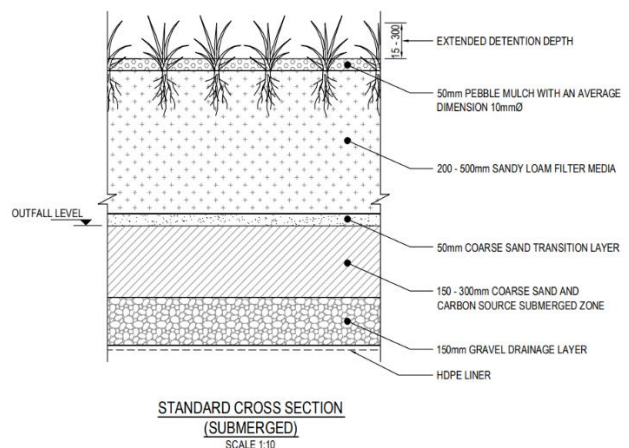


Figure 7 – Cross-section Raingarden (City of Moreland)

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## Rainwater Reuse

### Inputs

|                     |              |
|---------------------|--------------|
| Catchment Area      | 797 sqm      |
| Number of Occupants | 100          |
| Bin Washout         | No           |
| Irrigation Area     | 1228 sqm     |
| Tank Capacity       | 20,000 Litre |

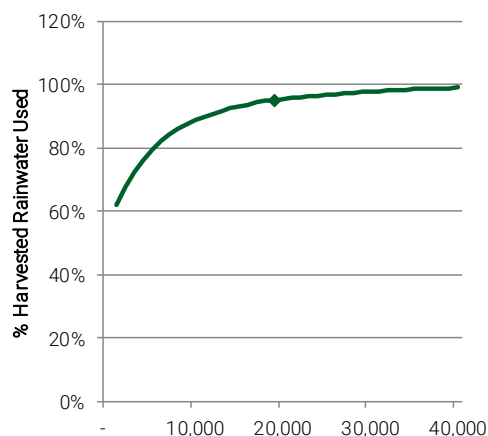
### Outputs

|                            |               |
|----------------------------|---------------|
| % Served by Rainwater      | 14.5%         |
| % Harvested Rainwater Used | 95.4%         |
| Total Potable Water Saved  | 277,729 Litre |

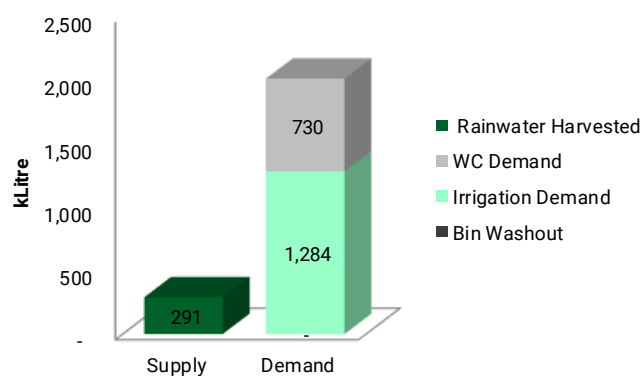
### Rainwater Balance (Monthly Averages)

| Month                 | Rainwater Harvested (L) | Irrigation Demand (L) | WC Demand (L) | Bin Washout (L) |
|-----------------------|-------------------------|-----------------------|---------------|-----------------|
| Jan                   | 18,606                  | 189,994               | 62,000        | 0               |
| Feb                   | 23,945                  | 172,111               | 56,000        | 0               |
| Mar                   | 21,728                  | 88,287                | 62,000        | 0               |
| Apr                   | 26,251                  | 84,519                | 60,000        | 0               |
| May                   | 22,127                  | 87,210                | 62,000        | 0               |
| Jun                   | 24,299                  | 39,741                | 60,000        | 0               |
| Jul                   | 17,771                  | 40,491                | 62,000        | 0               |
| Aug                   | 22,987                  | 40,491                | 62,000        | 0               |
| Sep                   | 24,261                  | 116,165               | 60,000        | 0               |
| Oct                   | 26,570                  | 118,357               | 62,000        | 0               |
| Nov                   | 36,700                  | 115,434               | 60,000        | 0               |
| Dec                   | 25,724                  | 191,464               | 62,000        | 0               |
| Total                 | 290,969                 | 1,284,264             | 730,000       | 0               |
| Equivalent STORM tool |                         | 176                   |               | 0               |

### Tank Sizing



### Supply-Demand



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## Site Management Statement

Prevention of litter, sediments and pollution entering the stormwater system in the construction phase is to be addressed through introduction of the following initiatives:

- Buffer strips to pervert stormwater runoff.
- Gravel sausage filters at stormwater inlets to prevent silt, mud, or any other site contaminant from entering the stormwater system.
- Silt fences under grates at surface entry inlets to prevent sediment from entering the stormwater system.
- Temporary rumble grids to vibrate mud and dirt off vehicles prior to leaving the site.
- The site is to be kept clean from any loose rubbish or rubble.
- Introduction of offsite construction for building elements where deemed appropriate.

The builder is to include these initiatives in the construction management plan and address these during site induction of relevant contractors.

## Maintenance Program

The following maintenance requirements are to be programmed to ensure the rainwater tank operates effectively:

| Item                               | Description                                                                                                                      | Maintenance Interval |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|----------------------|
| Gutters and downpipes              | Eave and box gutters are to be inspected and cleaned to prevent large debris from being washed into rainwater tank.              | 3 monthly            |
| First flush system (as applicable) | Inspect and clean excess sediment from diverter chamber to prevent blockages.                                                    | 3 monthly            |
| Tank contents                      | Siphon the tank to inspect contents. If sludge is present, a plumber will be required to drain tank contents and clean the tank. | 2 to 3 years         |
| Tank structure                     | Inspect tank externally for leaks                                                                                                | Yearly               |
| Pump system                        | Inspect pump wiring, plumbing and check for smooth operation.                                                                    | 6 monthly            |
| Plumbing                           | Plumbing and fixtures connected to the rainwater tank is to be inspected for leaks.                                              | Yearly               |

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The following maintenance requirements are to be programmed to ensure the raingarden operates effectively:

| Item                              | Description                                                                                                                                                                                                                                                                                                                       | Maintenance Interval |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| Kerbing and paved area            | Remove rubbish, leaves and other debris from the surrounding drainage area.                                                                                                                                                                                                                                                       | 3 monthly            |
| Ponding area                      | Clear inflow points of built-up sediment, rubbish and leaves.<br>Check for erosion or gouging – repair if necessary.                                                                                                                                                                                                              | 3 monthly            |
| Mulch layer (bark, pebbles, etc.) | Remove rubbish, leaves and other debris.<br>After storm events mulch may need to be redistributed or added around inflow points.                                                                                                                                                                                                  | 3 monthly            |
| Plants                            | Water establishing plants monthly during extended dry periods.<br>Check plant health and replace dead plants as necessary.<br>Use native species to suit garden conditions (e.g., full sun or shaded).<br>Remove weeds – do not use herbicides, pesticides and fertilisers as these chemicals will pollute the stormwater runoff. | 3 monthly            |
| Rain garden soil mix              | Check soil level is below surrounding hard surface level and overflow grate. Use drainage test to check soil is free draining.                                                                                                                                                                                                    | Annually             |
| Underdrain system                 | Use inspection well (if present) to check underdrain is working properly.<br>Check rain garden draining freely using drainage test.                                                                                                                                                                                               | Annually             |

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## Appendix B: Preliminary FirstRate5 Certificates

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# Nationwide House Energy Rating Scheme

## NatHERS Certificate

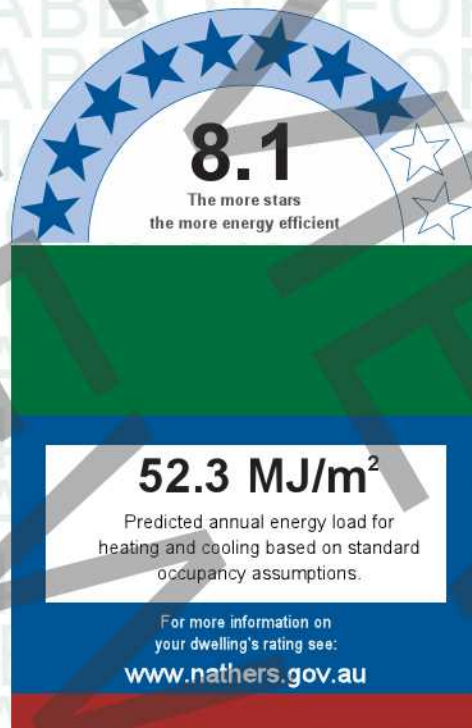
Generated on 7 Apr 2025 using FirstRate5: 5.3.2b (3.21)

### Property

**Address** G.07, 675 Victoria Street, Abbotsford, VIC, 3067  
**Lot/DP** -  
**NCC Class\*** Class 2  
**Type** New Home

### Plans

**Main plan** -  
**Prepared by** -



### Construction and environment

|                                  |        |                             |
|----------------------------------|--------|-----------------------------|
| <b>Assessed floor area (m²)*</b> |        | <b>Exposure type</b>        |
| Conditioned*                     | 81.8   | suburban                    |
| Unconditioned*                   | 2503.1 | <b>NatHERS climate zone</b> |
| Total                            | 2584.9 | 21 Melbourne RO             |
| Garage                           | -      |                             |

**ADVERTISED  
PLAN**

### Thermal performance

|                |                |
|----------------|----------------|
| <b>Heating</b> | <b>Cooling</b> |
| <b>38.4</b>    | <b>13.9</b>    |
| <b>MJ/m²</b>   | <b>MJ/m²</b>   |

#### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

### Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting [www.FR5.com.au](http://www.FR5.com.au).



### Accredited assessor

|                                          |                                                      |
|------------------------------------------|------------------------------------------------------|
| <b>Name</b>                              | Gary Wertheimer                                      |
| <b>Business name</b>                     | GIW Environmental Solutions                          |
| <b>Email</b>                             | <a href="mailto:gary@giw.com.au">gary@giw.com.au</a> |
| <b>Phone</b>                             | 0390445111                                           |
| <b>Accreditation No.</b>                 | DMN/10/2024                                          |
| <b>Assessor Accrediting Organisation</b> | Design Matters National                              |
| <b>Declaration of interest</b>           | Declaration completed: no conflicts                  |

### National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated houses are detailed in 3.12.0(a)(i) and 3.12.5 of the NCC Volume Two. For apartments the requirements are detailed in J0.2 and J5 to J8 of the NCC Volume One.

In NCC 2019, these requirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Requirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to: insulation installation methods, thermal breaks, building sealing, water heating and pumping, and compliance with the NCC and NatHERS Heating and Cooling Load Limits (Australian Building Codes Board Standard) and a final review.

State and territory variations and additions to the NCC may also apply.

\* Refer to glossary.



Certificate Check

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page?  
Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

Additional Notes

Window and glazed door type and performance

Default\* windows

| Window ID         | Window description | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|-------------------|--------------------|------------------|-------|-------------------------------|------------------|
|                   |                    |                  |       | SHGC lower limit              | SHGC upper limit |
| No Data Available |                    |                  |       |                               |                  |

Custom\* windows

| Window ID    | Window description                              | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|--------------|-------------------------------------------------|------------------|-------|-------------------------------|------------------|
|              |                                                 |                  |       | SHGC lower limit              | SHGC upper limit |
| CAP-051-06 A | Capral 35 Awning in 400 Frame DG 6EA/12Ar/6     | 4.42             | 0.41  | 0.39                          | 0.43             |
| CAP-057-13 A | Capral 900 Sliding Door DG 6EA/12Ar/6           | 3.19             | 0.48  | 0.46                          | 0.5              |
| CAP-055-52 A | Capral 419 Flushline Fixed Window DG 6/12Ar/6EA | 2.71             | 0.58  | 0.55                          | 0.61             |

Window and glazed door Schedule

| Location         | Window ID    | Window no. | Height (mm) | Width (mm) | Window type | Opening % | Orientation | Window shading device* |
|------------------|--------------|------------|-------------|------------|-------------|-----------|-------------|------------------------|
| Kitchen/Living 1 | CAP-051-06 A | Opening 15 | 3000        | 890        | awning      | 60.0      | S           | No                     |
| Kitchen/Living 1 | CAP-057-13 A | Opening 12 | 3000        | 3700       | sliding     | 20.0      | N           | No                     |

\* Refer to glossary.

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|           |              |            |      |      |         |      |   |    |
|-----------|--------------|------------|------|------|---------|------|---|----|
| Bedroom 3 | CAP-051-06 A | Opening 7  | 3000 | 1100 | awning  | 60.0 | S | No |
| Bedroom 1 | CAP-051-06 A | Opening 8  | 3000 | 945  | awning  | 60.0 | N | No |
| Bedroom 1 | CAP-055-52 A | Opening 14 | 3000 | 2000 | fixed   | 0.0  | N | No |
| Bedroom 1 | CAP-057-13 A | Opening 13 | 3000 | 2500 | sliding | 45.0 | W | No |

Roof window type and performance value

Default\* roof windows

| Window ID         | Window description | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|-------------------|--------------------|------------------|-------|-------------------------------|------------------|
|                   |                    |                  |       | SHGC lower limit              | SHGC upper limit |
| No Data Available |                    |                  |       |                               |                  |

Custom\* roof windows

| Window ID         | Window description | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|-------------------|--------------------|------------------|-------|-------------------------------|------------------|
|                   |                    |                  |       | SHGC lower limit              | SHGC upper limit |
| No Data Available |                    |                  |       |                               |                  |

Roof window schedule

| Location          | Window ID | Window no. | Opening % | Area (m²) | Orientation | Outdoor shade | Indoor shade |
|-------------------|-----------|------------|-----------|-----------|-------------|---------------|--------------|
| No Data Available |           |            |           |           |             |               |              |

Skylight type and performance

| Skylight ID       | Skylight description |
|-------------------|----------------------|
| No Data Available |                      |

Skylight schedule

| Location          | Skylight ID | Skylight No. | Skylight shaft length (mm) | Area (m²) | Orient-ation | Outdoor shade | Diffuser | Skylight shaft reflectance |
|-------------------|-------------|--------------|----------------------------|-----------|--------------|---------------|----------|----------------------------|
| No Data Available |             |              |                            |           |              |               |          |                            |

External door schedule

| Location          | Height (mm) | Width (mm) | Opening % | Orientation |
|-------------------|-------------|------------|-----------|-------------|
| No Data Available |             |            |           |             |

External wall type

| Wall ID | Wall type                                | Solar absorptance | Wall shade (colour) | Bulk insulation (R-value)                              | Reflective wall wrap* |
|---------|------------------------------------------|-------------------|---------------------|--------------------------------------------------------|-----------------------|
| 1       | 675 Victoria Street - Ext. Concrete Wall | 0.5               | Medium              | Glass fibre batt (k = 0.057 density = 7 kg/m3) (R1.3)  | No                    |
| 2       | FR5 - Earth Retaining Wall               | 0.5               | Medium              |                                                        | No                    |
| 3       | 675 Victoria Street - Int. Wall          | 0.5               | Medium              | Glass fibre batt (k = 0.044 density = 12 kg/m3) (R1.8) | No                    |
| 4       | 675 Victoria Street - Ext. Concrete Wall | 0.5               | Medium              | Glass fibre batt (k = 0.044 density = 12 kg/m3) (R1.8) | No                    |

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|   |                                          |     |        |                                                        |    |
|---|------------------------------------------|-----|--------|--------------------------------------------------------|----|
| 5 | 675 Victoria Street - Ext. Concrete Wall | 0.5 | Medium | Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.5) | No |
|---|------------------------------------------|-----|--------|--------------------------------------------------------|----|

External wall schedule

| Location         | Wall ID | Height (mm) | Width (mm) | Orientation | Horizontal shading feature* maximum projection (mm) | Vertical shading feature (yes/no) |
|------------------|---------|-------------|------------|-------------|-----------------------------------------------------|-----------------------------------|
| Carpark          | 1       | 3000        | 991        | N           | 0                                                   | Yes                               |
| Carpark          | 1       | 3000        | 24952      | W           | 0                                                   | Yes                               |
| Carpark          | 1       | 3000        | 3172       | N           | 0                                                   | Yes                               |
| Carpark          | 1       | 3000        | 1786       | W           | 0                                                   | No                                |
| Carpark          | 2       | 3000        | 21281      | W           | 0                                                   | No                                |
| Carpark          | 2       | 3000        | 5641       | S           | 0                                                   | No                                |
| Carpark          | 2       | 3000        | 12747      | W           | 0                                                   | No                                |
| Carpark          | 2       | 3000        | 32200      | S           | 0                                                   | No                                |
| Carpark          | 2       | 3000        | 48483      | E           | 0                                                   | No                                |
| Carpark          | 1       | 3000        | 12287      | E           | 0                                                   | Yes                               |
| Ammenity area    | 1       | 2400        | 10400      | E           | 0                                                   | Yes                               |
| Ammenity area    | 1       | 2400        | 34218      | N           | 0                                                   | No                                |
| Ammenity area    | 1       | 2400        | 9400       | W           | 0                                                   | Yes                               |
| Kitchen/Living 1 | 3       | 3000        | 5341       | S           | 0                                                   | No                                |
| Kitchen/Living 1 | 4       | 3000        | 1076       | S           | 4041                                                | Yes                               |
| Kitchen/Living 1 | 4       | 3000        | 1757       | S           | 0                                                   | Yes                               |
| Kitchen/Living 1 | 5       | 3000        | 4145       | N           | 2689                                                | Yes                               |
| Kitchen/Living 1 | 3       | 3000        | 8908       | W           | 0                                                   | No                                |
| Kitchen/Living 1 | 3       | 3000        | 4068       | N           | 0                                                   | No                                |
| Kitchen/Living 1 | 3       | 3000        | 1465       | W           | 0                                                   | No                                |
| Bedroom 3        | 5       | 3000        | 2955       | S           | 0                                                   | Yes                               |
| Bedroom 3        | 5       | 3000        | 3538       | E           | 0                                                   | Yes                               |
| Bathroom         | 5       | 3000        | 2330       | E           | 0                                                   | Yes                               |
| Ensuite          | 5       | 3000        | 1507       | E           | 0                                                   | Yes                               |
| Bedroom 1        | 5       | 3000        | 5457       | E           | 0                                                   | Yes                               |
| Bedroom 1        | 5       | 3000        | 3036       | N           | 0                                                   | No                                |
| Bedroom 1        | 5       | 3000        | 2559       | W           | 0                                                   | Yes                               |

Internal wall type

| Wall ID | Wall type                             | Area (m²) | Bulk insulation |
|---------|---------------------------------------|-----------|-----------------|
| 1       | FR5 - Internal Plasterboard Stud Wall | 139.1     |                 |

Floor type

| Location | Construction              | Area (m²) | Sub-floor ventilation | Added insulation (R value) | Covering |
|----------|---------------------------|-----------|-----------------------|----------------------------|----------|
| Carpark  | FR5 - 200mm concrete slab | 2160      | Enclosed              | R0.0                       | none     |

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|                  |                           |       |          |      |                          |
|------------------|---------------------------|-------|----------|------|--------------------------|
| Ammenity area    | FR5 - Timber              | 338.6 | Enclosed | R0.0 | Timber<br>(Mountain ash) |
| Kitchen/Living 1 | FR5 - 200mm concrete slab | 29.4  | Enclosed | R2.4 | Timber                   |
| Kitchen/Living 1 | FR5 - 200mm concrete slab | 19.1  | Enclosed | R2.4 | Timber                   |
| Bedroom 3        | FR5 - 200mm concrete slab | 10.6  | Enclosed | R2.4 | Carpet                   |
| Bathroom         | FR5 - 200mm concrete slab | 7     | Enclosed | R2.4 | Timber                   |
| Ensuite          | FR5 - 200mm concrete slab | 4.5   | Enclosed | R2.4 | Timber                   |
| Bedroom 1        | FR5 - 200mm concrete slab | 16    | Enclosed | R2.4 | Carpet                   |

### Ceiling type

| Location      | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* |
|---------------|----------------------------|--------------------------------------------------------|------------------|
| Carpark       | FR5 - 200mm concrete slab  | R2.4                                                   | No               |
| Carpark       | Plasterboard               | R0.0                                                   | No               |
| Ammenity area | FR5 - 200mm concrete slab  | R2.4                                                   | No               |
| Ammenity area | Plasterboard               | R0.0                                                   | No               |

### Ceiling penetrations\*

| Location         | Quantity | Type         | Diameter (mm) | Sealed/unsealed |
|------------------|----------|--------------|---------------|-----------------|
| Kitchen/Living 1 | 21       | Downlights   | 80            | Sealed          |
| Kitchen/Living 1 | 1        | Exhaust Fans | 200           | Sealed          |
| Bedroom 3        | 4        | Downlights   | 80            | Sealed          |
| Bathroom         | 2        | Downlights   | 80            | Sealed          |
| Bathroom         | 1        | Exhaust Fans | 200           | Sealed          |
| Ensuite          | 2        | Downlights   | 80            | Sealed          |
| Ensuite          | 1        | Exhaust Fans | 200           | Sealed          |
| Bedroom 1        | 8        | Downlights   | 80            | Sealed          |

### Ceiling fans

| Location          | Quantity | Diameter (mm) |
|-------------------|----------|---------------|
| No Data Available |          |               |

### Roof type

| Construction                                                | Added insulation (R-value) | Solar absorptance | Roof shade |
|-------------------------------------------------------------|----------------------------|-------------------|------------|
| Slab:Slab - Suspended Slab : 200mm: 200mm<br>Suspended Slab | 0.0                        | 0.5               | Medium     |
| Disc:Attic-Discontinuous                                    | 0.0                        | 0.5               | Medium     |

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\* Refer to glossary.

Explanatory Notes

About this report

A NatHERS rating is a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate an energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances or energy production of solar panels.

Ratings are based on a unique climate zone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. The actual energy consumption of a home may vary significantly from the predicted energy load, as the assumptions used in the rating will not match actual usage patterns. For example, the number of occupants and personal heating or cooling preferences will vary.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparing different dwelling designs and to demonstrate that the design meets the energy efficiency requirements in the National Construction Code. Homes that are energy efficient use less energy, are warmer on cool days, cooler on hot days and cost less to run. The higher the star rating the more thermally efficient the dwelling is.

Accredited assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO).

Australian Capital Territory (ACT) licensed assessors may only produce assessments for regulatory purposes using software for which they have a licence endorsement. Licence endorsements can be confirmed on the ACT licensing register

Glossary

|                               |                                                                                                                                                                                                                                                                                             |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Annual energy load            | the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.                                                                                                                                                                                   |
| Assessed floor area           | the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.                                                                                                                            |
| Ceiling penetrations          | features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts. |
| Conditioned                   | a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.                                                                                                                            |
| Custom windows                | windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.                                                                                                                                                      |
| Default windows               | windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.                                                                                                                                                         |
| Entrance door                 | these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.                                                                                                                      |
| Exposure category - exposed   | terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).                                                                                                                                                              |
| Exposure category - open      | terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).                                                                       |
| Exposure category - suburban  | terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.                                                                                                                                                                       |
| Exposure category - protected | terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.                                                                                                                                                                                                |
| Horizontal shading feature    | provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, balconies from upper levels.                                                                                                                                                                     |

\* Refer to glossary.

AAOs have specific quality assurance processes in place, and continuing professional development requirements, to maintain a high and consistent standard of assessments across the country. Non-accredited assessors do not have this level of quality assurance or any ongoing training requirements.

Any questions or concerns about this report should be directed to the assessor in the first instance. If the assessor is unable to address these questions or concerns, the AAO specified on the front of this certificate should be contacted.

Disclaimer

The format of the NatHERS Certificate was developed by the NatHERS Administrator. However the content of each individual certificate is entered and created by the assessor to create a NatHERS Certificate. It is the responsibility of the assessor who prepared this certificate to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce a NatHERS Certificate.

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings are likely to perform when used in a similar way. Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

Not all assumptions that may have been made by the assessor while using the NatHERS accredited software tool are presented in this report and further details or data files may be available from the assessor.

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|                                               |                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>National Construction Code (NCC) Class</b> | the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at <a href="http://www.abcb.gov.au">www.abcb.gov.au</a> .                                                                        |
| <b>Opening Percentage</b>                     | the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.                                                                                                                                                                                                                     |
| <b>Provisional value</b>                      | an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at <a href="http://www.nathers.gov.au">www.nathers.gov.au</a> |
| <b>Reflective wrap</b> (also known as foil)   | can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.                                                                                                                                                                                           |
| <b>Roof window</b>                            | for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.                                                                                                                                                     |
| <b>Shading device</b>                         | a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.                                                                                                                                                                                                                                       |
| <b>Shading features</b>                       | includes neighbouring buildings, fences, and wing walls, but excludes eaves.                                                                                                                                                                                                                                                             |
| <b>Solar heat gain coefficient (SHGC)</b>     | the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.                                                                          |
| <b>Skylight</b> (also known as roof lights)   | for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.                                                                                                                                                                                                               |
| <b>U-value</b>                                | the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.                                                                                                                                                                                                                                    |
| <b>Unconditioned</b>                          | a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.                                                                                                                                                                                                                     |
| <b>Vertical shading features</b>              | provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).                                                                    |

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# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. QQMM5W0P9M

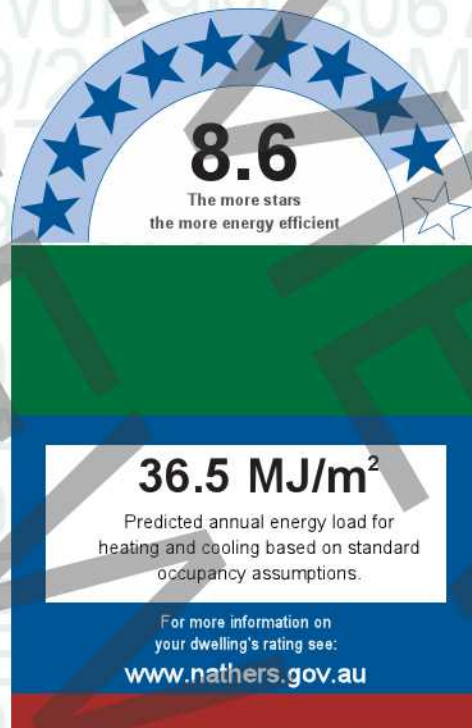
Generated on 9 Sep 2022 using FirstRate5: 5.3.2b (3.21)

### Property

**Address** 1.07, 675 Victoria Street, Abbotsford, VIC, 3067  
**Lot/DP** -  
**NCC Class\*** Class 2  
**Type** New Home

### Plans

**Main plan** -  
**Prepared by** -



### Construction and environment

|                                             |       |                             |
|---------------------------------------------|-------|-----------------------------|
| <b>Assessed floor area (m<sup>2</sup>)*</b> |       | <b>Exposure type</b>        |
| Conditioned*                                | 143.7 | suburban                    |
| Unconditioned*                              | 5.4   | <b>NatHERS climate zone</b> |
| Total                                       | 149.1 | 21 Melbourne RO             |
| Garage                                      | -     |                             |

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### Thermal performance

|                         |                         |
|-------------------------|-------------------------|
| <b>Heating</b>          | <b>Cooling</b>          |
| <b>28.4</b>             | <b>8.1</b>              |
| <b>MJ/m<sup>2</sup></b> | <b>MJ/m<sup>2</sup></b> |

### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

### Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting [www.FR5.com.au](http://www.FR5.com.au).



### Accredited assessor

|                                          |                                                      |
|------------------------------------------|------------------------------------------------------|
| <b>Name</b>                              | Gary Wertheimer                                      |
| <b>Business name</b>                     | GIW Environmental Solutions                          |
| <b>Email</b>                             | <a href="mailto:gary@giw.com.au">gary@giw.com.au</a> |
| <b>Phone</b>                             | 0390445111                                           |
| <b>Accreditation No.</b>                 | DMN/10/2024                                          |
| <b>Assessor Accrediting Organisation</b> |                                                      |
| Design Matters National                  |                                                      |
| <b>Declaration of interest</b>           | Declaration completed: no conflicts                  |

### National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated houses are detailed in 3.12.0(a)(i) and 3.12.5 of the NCC Volume Two. For apartments the requirements are detailed in J0.2 and J5 to J8 of the NCC Volume One.

In NCC 2019, these requirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Requirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to: insulation installation methods, thermal breaks, building sealing, water heating and pumping, and compliance with the NCC and NatHERS Heating and Cooling Load Limits (Australian Building Codes Board Standard) and a final review.

State and territory variations and additions to the NCC may also apply.

\* Refer to glossary.



## Certificate Check

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page?  
Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

## Additional Notes

### Window and glazed door *type and performance*

#### Default\* windows

| Window ID         | Window description | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|-------------------|--------------------|------------------|-------|-------------------------------|------------------|
|                   |                    |                  |       | SHGC lower limit              | SHGC upper limit |
| No Data Available |                    |                  |       |                               |                  |

#### Custom\* windows

| Window ID    | Window description                              | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|--------------|-------------------------------------------------|------------------|-------|-------------------------------|------------------|
|              |                                                 |                  |       | SHGC lower limit              | SHGC upper limit |
| CAP-057-13 A | Capral 900 Sliding Door DG 6EA/12Ar/6           | 3.19             | 0.48  | 0.46                          | 0.5              |
| CAP-051-06 A | Capral 35 Awning in 400 Frame DG 6EA/12Ar/6     | 4.42             | 0.41  | 0.39                          | 0.43             |
| CAP-055-52 A | Capral 419 Flushline Fixed Window DG 6/12Ar/6EA | 2.71             | 0.58  | 0.55                          | 0.61             |

### Window and glazed door *Schedule*

| Location  | Window ID    | Window no. | Height (mm) | Width (mm) | Window type | Opening % | Orientation | Window shading device* |
|-----------|--------------|------------|-------------|------------|-------------|-----------|-------------|------------------------|
| Bed 1     | CAP-057-13 A | Opening 11 | 1900        | 1415       | awning      | 60.0      | W           | No                     |
| Bedroom 2 | CAP-057-13 A | Opening 10 | 1900        | 1422       | awning      | 60.0      | W           | No                     |

\* Refer to glossary.

Generated on 9 Sep 2022 using FirstRate5: 5.3.2b (3.21) for 1.07, 675 Victoria Street, Abbotsford,

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|                |              |            |      |      |         |      |   |    |
|----------------|--------------|------------|------|------|---------|------|---|----|
| Bedroom 3      | CAP-051-06 A | Opening 9  | 3000 | 1606 | sliding | 45.0 | W | No |
| Bedroom 3      | CAP-055-52 A | Opening 14 | 3000 | 1304 | fixed   | 0.0  | W | No |
| Kitchen/Living | CAP-055-52 A | Opening 12 | 3000 | 920  | fixed   | 0.0  | N | No |
| Kitchen/Living | CAP-051-06 A | Opening 13 | 3000 | 3059 | sliding | 45.0 | N | No |
| Kitchen/Living | CAP-055-52 A | Opening 15 | 3000 | 920  | fixed   | 0.0  | N | No |
| Kitchen/Living | CAP-055-52 A | Opening 16 | 3000 | 920  | fixed   | 0.0  | N | No |

## Roof window type and performance value

### Default\* roof windows

| Window ID         | Window description | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|-------------------|--------------------|------------------|-------|-------------------------------|------------------|
|                   |                    |                  |       | SHGC lower limit              | SHGC upper limit |
| No Data Available |                    |                  |       |                               |                  |

### Custom\* roof windows

| Window ID         | Window description | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|-------------------|--------------------|------------------|-------|-------------------------------|------------------|
|                   |                    |                  |       | SHGC lower limit              | SHGC upper limit |
| No Data Available |                    |                  |       |                               |                  |

## Roof window schedule

| Location          | Window ID | Window no. | Opening % | Area (m²) | Orientation | Outdoor shade | Indoor shade |
|-------------------|-----------|------------|-----------|-----------|-------------|---------------|--------------|
| No Data Available |           |            |           |           |             |               |              |

## Skylight type and performance

| Skylight ID       | Skylight description |
|-------------------|----------------------|
| No Data Available |                      |

## Skylight schedule

| Location          | Skylight ID | Skylight No. | Skylight shaft length (mm) | Area (m²) | Orientation | Outdoor shade | Diffuser | Skylight shaft reflectance |
|-------------------|-------------|--------------|----------------------------|-----------|-------------|---------------|----------|----------------------------|
| No Data Available |             |              |                            |           |             |               |          |                            |

## External door schedule

| Location          | Height (mm) | Width (mm) | Opening % | Orientation |
|-------------------|-------------|------------|-----------|-------------|
| No Data Available |             |            |           |             |

## External wall type

| Wall ID | Wall type                           | Solar absorptance | Wall shade (colour) | Bulk insulation (R-value)                              | Reflective wall wrap* |
|---------|-------------------------------------|-------------------|---------------------|--------------------------------------------------------|-----------------------|
| 1       | 675 Victoria st - Ext concrete Wall | 0.5               | Medium              | Glass fibre batt (k = 0.044 density = 12 kg/m³) (R2.5) | No                    |
| 2       | 675 Victoria Street - Int. Wall     | 0.5               | Medium              | Glass fibre batt (k = 0.044 density = 12 kg/m³) (R1.9) | No                    |

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## External wall *schedule*

| Location       | Wall ID | Height (mm) | Width (mm) | Orientation | Horizontal shading feature* maximum projection (mm) | Vertical shading feature (yes/no) |
|----------------|---------|-------------|------------|-------------|-----------------------------------------------------|-----------------------------------|
| Bed 1          | 1       | 3000        | 1555       | S           | 0                                                   | Yes                               |
| Bed 1          | 1       | 3000        | 4207       | W           | 0                                                   | No                                |
| Bedroom 2      | 1       | 3000        | 695        | S           | 9319                                                | Yes                               |
| Bedroom 2      | 1       | 3000        | 1701       | W           | 0                                                   | Yes                               |
| Laundry        | 2       | 3000        | 3176       | E           | 0                                                   | No                                |
| Laundry        | 2       | 3000        | 322        | ENE         | 0                                                   | No                                |
| Laundry        | 2       | 3000        | 260        | NE          | 0                                                   | No                                |
| Laundry        | 2       | 3000        | 263        | NE          | 0                                                   | No                                |
| Laundry        | 2       | 3000        | 1968       | N           | 0                                                   | No                                |
| Ensuite        | 2       | 3000        | 2569       | S           | 0                                                   | No                                |
| Ensuite        | 2       | 3000        | 3103       | E           | 0                                                   | No                                |
| WIR            | 2       | 3000        | 3240       | S           | 0                                                   | No                                |
| Bedroom 3      | 2       | 3000        | 4513       | S           | 0                                                   | No                                |
| Bedroom 3      | 1       | 3000        | 3064       | W           | 2319                                                | Yes                               |
| Hall           | 2       | 3000        | 1638       | E           | 0                                                   | No                                |
| Hall           | 2       | 3000        | 1670       | E           | 0                                                   | No                                |
| Hall           | 2       | 3000        | 2277       | N           | 0                                                   | No                                |
| Kitchen/Living | 2       | 3000        | 5939       | E           | 0                                                   | No                                |
| Kitchen/Living | 1       | 3000        | 7883       | N           | 2727                                                | Yes                               |
| Kitchen/Living | 1       | 3000        | 6831       | W           | 0                                                   | No                                |

## Internal wall *type*

| Wall ID | Wall type                             | Area (m²) | Bulk insulation |
|---------|---------------------------------------|-----------|-----------------|
| 1       | FR5 - Internal Plasterboard Stud Wall | 147.4     |                 |

## Floor *type*

| Location       | Construction              | Area (m²) | Sub-floor ventilation | Added insulation (R-value) | Covering |
|----------------|---------------------------|-----------|-----------------------|----------------------------|----------|
| Bed 1          | FR5 - 250mm concrete slab | 12.9      | Enclosed              | R0.0                       | Carpet   |
| Bedroom 2      | FR5 - 250mm concrete slab | 12.1      | Enclosed              | R0.0                       | Carpet   |
| Powder         | FR5 - 250mm concrete slab | 5.4       | Enclosed              | R0.0                       | Tiles    |
| Pantry         | FR5 - 250mm concrete slab | 7.2       | Enclosed              | R0.0                       | Timber   |
| Laundry        | FR5 - 250mm concrete slab | 9.5       | Enclosed              | R0.0                       | Tiles    |
| Ensuite        | FR5 - 250mm concrete slab | 8         | Enclosed              | R0.0                       | Tiles    |
| WIR            | FR5 - 250mm concrete slab | 8.4       | Enclosed              | R0.0                       | Carpet   |
| Bedroom 3      | FR5 - 250mm concrete slab | 13.8      | Enclosed              | R0.0                       | Carpet   |
| Hall           | FR5 - 250mm concrete slab | 21.9      | Enclosed              | R0.0                       | Timber   |
| Kitchen/Living | FR5 - 250mm concrete slab | 49.9      | Enclosed              | R0.0                       | Timber   |

\* Refer to glossary.

**Ceiling type**

| Location          | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* |
|-------------------|----------------------------|--------------------------------------------------------|------------------|
| No Data Available |                            |                                                        |                  |

**Ceiling penetrations\***

| Location       | Quantity | Type         | Diameter (mm) | Sealed/unsealed |
|----------------|----------|--------------|---------------|-----------------|
| Bed 1          | 5        | Downlights   | 80            | Sealed          |
| Bedroom 2      | 5        | Downlights   | 80            | Sealed          |
| Powder         | 2        | Downlights   | 80            | Sealed          |
| Powder         | 1        | Exhaust Fans | 200           | Sealed          |
| Pantry         | 3        | Downlights   | 80            | Sealed          |
| Laundry        | 4        | Downlights   | 80            | Sealed          |
| Ensuite        | 3        | Downlights   | 80            | Sealed          |
| Ensuite        | 1        | Exhaust Fans | 200           | Sealed          |
| WIR            | 3        | Downlights   | 80            | Sealed          |
| Bedroom 3      | 5        | Downlights   | 80            | Sealed          |
| Hall           | 8        | Downlights   | 80            | Sealed          |
| Kitchen/Living | 20       | Downlights   | 80            | Sealed          |
| Kitchen/Living | 1        | Exhaust Fans | 200           | Sealed          |

**Ceiling fans**

| Location          | Quantity | Diameter (mm) |
|-------------------|----------|---------------|
| No Data Available |          |               |

**Roof type**

| Construction                                                 | Added insulation (R-value) | Solar absorptance | Roof shade |
|--------------------------------------------------------------|----------------------------|-------------------|------------|
| Slab: Slab - Suspended Slab : 250mm: 250mm<br>Suspended Slab | 0.0                        | 0.5               | Medium     |

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\* Refer to glossary.



## Explanatory Notes

### About this report

A NatHERS rating is a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate an energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances or energy production of solar panels.

Ratings are based on a unique climate zone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. The actual energy consumption of a home may vary significantly from the predicted energy load, as the assumptions used in the rating will not match actual usage patterns. For example, the number of occupants and personal heating or cooling preferences will vary.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparing different dwelling designs and to demonstrate that the design meets the energy efficiency requirements in the National Construction Code. Homes that are energy efficient use less energy, are warmer on cool days, cooler on hot days and cost less to run. The higher the star rating the more thermally efficient the dwelling is.

### Accredited assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO).

Australian Capital Territory (ACT) licensed assessors may only produce assessments for regulatory purposes using software for which they have a licence endorsement. Licence endorsements can be confirmed on the ACT licensing register

## Glossary

|                                      |                                                                                                                                                                                                                                                                                             |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Annual energy load</b>            | the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.                                                                                                                                                                                   |
| <b>Assessed floor area</b>           | the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.                                                                                                                            |
| <b>Ceiling penetrations</b>          | features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts. |
| <b>Conditioned</b>                   | a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.                                                                                                                            |
| <b>Custom windows</b>                | windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.                                                                                                                                                      |
| <b>Default windows</b>               | windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.                                                                                                                                                         |
| <b>Entrance door</b>                 | these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.                                                                                                                      |
| <b>Exposure category - exposed</b>   | terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).                                                                                                                                                              |
| <b>Exposure category - open</b>      | terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).                                                                       |
| <b>Exposure category - suburban</b>  | terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.                                                                                                                                                                       |
| <b>Exposure category - protected</b> | terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.                                                                                                                                                                                                |
| <b>Horizontal shading feature</b>    | provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, balconies from upper levels.                                                                                                                                                                     |

AAOs have specific quality assurance processes in place, and continuing professional development requirements, to maintain a high and consistent standard of assessments across the country. Non-accredited assessors do not have this level of quality assurance or any ongoing training requirements.

Any questions or concerns about this report should be directed to the assessor in the first instance. If the assessor is unable to address these questions or concerns, the AAO specified on the front of this certificate should be contacted.

### Disclaimer

The format of the NatHERS Certificate was developed by the NatHERS Administrator. However the content of each individual certificate is entered and created by the assessor to create a NatHERS Certificate. It is the responsibility of the assessor who prepared this certificate to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce a NatHERS Certificate.

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

Not all assumptions that may have been made by the assessor while using the NatHERS accredited software tool are presented in this report and further details or data files may be available from the assessor.

|                                               |                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>National Construction Code (NCC) Class</b> | the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at <a href="http://www.abcb.gov.au">www.abcb.gov.au</a> .                                                                        |
| <b>Opening Percentage</b>                     | the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.                                                                                                                                                                                                                     |
| <b>Provisional value</b>                      | an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at <a href="http://www.nathers.gov.au">www.nathers.gov.au</a> |
| <b>Reflective wrap</b> (also known as foil)   | can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.                                                                                                                                                                                           |
| <b>Roof window</b>                            | for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.                                                                                                                                                     |
| <b>Shading device</b>                         | a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.                                                                                                                                                                                                                                       |
| <b>Shading features</b>                       | includes neighbouring buildings, fences, and wing walls, but excludes eaves.                                                                                                                                                                                                                                                             |
| <b>Solar heat gain coefficient (SHGC)</b>     | the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.                                                                          |
| <b>Skylight</b> (also known as roof lights)   | for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.                                                                                                                                                                                                               |
| <b>U-value</b>                                | the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.                                                                                                                                                                                                                                    |
| <b>Unconditioned</b>                          | a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.                                                                                                                                                                                                                     |
| <b>Vertical shading features</b>              | provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).                                                                    |

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# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. RWGRH0PPUP

Generated on 9 Sep 2022 using FirstRate5: 5.3.2b (3.21)

### Property

**Address** 2.03, 675 Victoria Street, Abbotsford, VIC, 3067  
**Lot/DP** -  
**NCC Class\*** Class 2  
**Type** New Home

### Plans

**Main plan** -  
**Prepared by** -

### Construction and environment

#### Assessed floor area (m<sup>2</sup>)\*

**Conditioned\*** 73.4  
**Unconditioned\*** 1.2  
**Total** 74.6  
**Garage** -

#### Exposure type

suburban

#### NatHERS climate zone

21 Melbourne RO

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### Accredited assessor

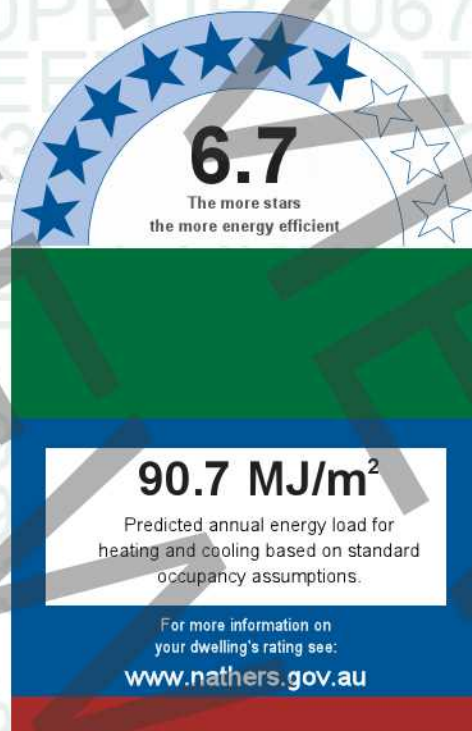
**Name** Gary Wertheimer  
**Business name** GIW Environmental Solutions  
**Email** gary@giw.com.au  
**Phone** 0390445111  
**Accreditation No.** DMN/10/2024  
**Assessor Accrediting Organisation** Design Matters National  
**Declaration of interest** Declaration completed: no conflicts

### National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated houses are detailed in 3.12.0(a)(i) and 3.12.5 of the NCC Volume Two. For apartments the requirements are detailed in J0.2 and J5 to J8 of the NCC Volume One.

In NCC 2019, these requirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Requirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to: insulation installation methods, thermal breaks, building sealing, water heating and pumping, and compliance with the NCC and NatHERS Heating and Cooling Load Limits (Australian Building Codes Board Standard) and a full compliance review.

State and territory variations and additions to the NCC may also apply.



### Thermal performance

#### Heating Cooling

**63 27.7**  
**MJ/m<sup>2</sup> MJ/m<sup>2</sup>**

### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

### Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting [www.FR5.com.au](http://www.FR5.com.au).



\* Refer to glossary.



## Certificate Check

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page?  
Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

## Additional Notes

### Window and glazed door *type and performance*

#### Default\* windows

| Window ID         | Window description | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|-------------------|--------------------|------------------|-------|-------------------------------|------------------|
|                   |                    |                  |       | SHGC lower limit              | SHGC upper limit |
| No Data Available |                    |                  |       |                               |                  |

#### Custom\* windows

| Window ID    | Window description                              | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|--------------|-------------------------------------------------|------------------|-------|-------------------------------|------------------|
|              |                                                 |                  |       | SHGC lower limit              | SHGC upper limit |
| CAP-055-52 A | Capral 419 Flushline Fixed Window DG 6/12Ar/6EA | 2.71             | 0.58  | 0.55                          | 0.61             |
| CAP-057-13 A | Capral 900 Sliding Door DG 6EA/12Ar/6           | 3.19             | 0.48  | 0.46                          | 0.5              |

### Window and glazed door *Schedule*

| Location         | Window ID    | Window no. | Height (mm) | Width (mm) | Window type | Opening % | Orientation | Window shading device* |
|------------------|--------------|------------|-------------|------------|-------------|-----------|-------------|------------------------|
| Kitchen/Living 1 | CAP-055-52 A | Opening 12 | 3000        | 958        | fixed       | 0.0       | S           | No                     |
| Kitchen/Living 1 | CAP-057-13 A | Opening 13 | 3000        | 2682       | sliding     | 45.0      | S           | No                     |
| Kitchen/Living 1 | CAP-055-52 A | Opening 14 | 3000        | 3837       | fixed       | 0.0       | S           | No                     |

\* Refer to glossary.

Generated on 9 Sep 2022 using FirstRate5: 5.3.2b (3.21) for 2.03, 675 Victoria Street, Abbotsford,

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|                  |              |            |      |      |         |      |   |    |
|------------------|--------------|------------|------|------|---------|------|---|----|
| Kitchen/Living 1 | CAP-055-52 A | Opening 11 | 1900 | 1555 | fixed   | 0.0  | W | No |
| Bedroom 2        | CAP-057-13 A | Opening 10 | 3000 | 2350 | sliding | 45.0 | W | No |
| Bedroom 1        | CAP-057-13 A | Opening 9  | 3000 | 2323 | sliding | 45.0 | W | No |

## Roof window type and performance value

### Default\* roof windows

| Window ID         | Window description | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|-------------------|--------------------|------------------|-------|-------------------------------|------------------|
|                   |                    |                  |       | SHGC lower limit              | SHGC upper limit |
| No Data Available |                    |                  |       |                               |                  |

### Custom\* roof windows

| Window ID         | Window description | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|-------------------|--------------------|------------------|-------|-------------------------------|------------------|
|                   |                    |                  |       | SHGC lower limit              | SHGC upper limit |
| No Data Available |                    |                  |       |                               |                  |

## Roof window schedule

| Location          | Window ID | Window no. | Opening % | Area (m²) | Orientation | Outdoor shade | Indoor shade |
|-------------------|-----------|------------|-----------|-----------|-------------|---------------|--------------|
| No Data Available |           |            |           |           |             |               |              |

## Skylight type and performance

| Skylight ID       | Skylight description |
|-------------------|----------------------|
| No Data Available |                      |

## Skylight schedule

| Location          | Skylight ID | Skylight No. | Skylight shaft length (mm) | Area (m²) | Orientation | Outdoor shade | Diffuser | Skylight shaft reflectance |
|-------------------|-------------|--------------|----------------------------|-----------|-------------|---------------|----------|----------------------------|
| No Data Available |             |              |                            |           |             |               |          |                            |

## External door schedule

| Location          | Height (mm) | Width (mm) | Opening % | Orientation |
|-------------------|-------------|------------|-----------|-------------|
| No Data Available |             |            |           |             |

## External wall type

| Wall ID | Wall type                           | Solar absorptance | Wall shade (colour) | Bulk insulation (R-value)                              | Reflective wall wrap* |
|---------|-------------------------------------|-------------------|---------------------|--------------------------------------------------------|-----------------------|
| 1       | 675 Victoria st - Ext concrete Wall | 0.5               | Medium              | Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.5) | No                    |
| 2       | 675 Victoria Street - Int. Wall     | 0.5               | Medium              | Glass fibre batt (k = 0.044 density = 12 kg/m3) (R1.8) | No                    |

## External wall schedule

| Location | Wall ID | Height (mm) | Width (mm) | Orientation | Horizontal shading feature* maximum projection (mm) | Vertical shading feature* maximum projection (mm) |
|----------|---------|-------------|------------|-------------|-----------------------------------------------------|---------------------------------------------------|
|          |         |             |            |             |                                                     |                                                   |

\* Refer to glossary.



|                  |   |      |      |   |      |     |
|------------------|---|------|------|---|------|-----|
| Kitchen/Living 1 | 1 | 3100 | 7566 | S | 2205 | Yes |
| Kitchen/Living 1 | 2 | 3100 | 5533 | E | 0    | No  |
| Kitchen/Living 1 | 1 | 3100 | 3655 | W | 1322 | Yes |
| Bedroom 2        | 1 | 3100 | 3385 | W | 2847 | Yes |
| Bedroom 1        | 2 | 3100 | 4166 | N | 0    | No  |
| Bedroom 1        | 2 | 3100 | 593  | W | 0    | Yes |
| Bedroom 1        | 1 | 3100 | 2331 | W | 5064 | Yes |
| Ensuite          | 2 | 3100 | 1777 | E | 0    | No  |
| Ensuite          | 2 | 3100 | 3276 | N | 0    | No  |
| Bathroom         | 2 | 3100 | 2656 | E | 0    | No  |

## Internal wall type

| Wall ID | Wall type                             | Area (m²) | Bulk insulation |
|---------|---------------------------------------|-----------|-----------------|
| 1       | FR5 - Internal Plasterboard Stud Wall | 75        |                 |

## Floor type

| Location         | Construction              | Area (m²) | Sub-floor ventilation | Added insulation (R-value) | Covering |
|------------------|---------------------------|-----------|-----------------------|----------------------------|----------|
| Kitchen/Living 1 | FR5 - 250mm concrete slab | 36.9      | Enclosed              | R0.0                       | Timber   |
| Bedroom 2        | FR5 - 250mm concrete slab | 12.5      | Enclosed              | R0.0                       | Carpet   |
| Bedroom 1        | FR5 - 250mm concrete slab | 14.2      | Enclosed              | R0.0                       | Carpet   |
| Ensuite          | FR5 - 250mm concrete slab | 5.8       | Enclosed              | R0.0                       | Tiles    |
| Bathroom         | FR5 - 250mm concrete slab | 4         | Enclosed              | R0.0                       | Tiles    |
| Laundry          | FR5 - 250mm concrete slab | 1.2       | Enclosed              | R0.0                       | Timber   |

## Ceiling type

| Location          | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* |
|-------------------|----------------------------|--------------------------------------------------------|------------------|
| No Data Available |                            |                                                        |                  |

## Ceiling penetrations\*

| Location         | Quantity | Type         | Diameter (mm) | Sealed/unsealed |
|------------------|----------|--------------|---------------|-----------------|
| Kitchen/Living 1 | 15       | Downlights   | 80            | Sealed          |
| Kitchen/Living 1 | 1        | Exhaust Fans | 200           | Sealed          |
| Bedroom 2        | 4        | Downlights   | 80            | Sealed          |
| Bedroom 1        | 6        | Downlights   | 80            | Sealed          |
| Ensuite          | 2        | Downlights   | 80            | Sealed          |
| Ensuite          | 1        | Exhaust Fans | 200           | Sealed          |
| Bathroom         | 2        | Downlights   | 80            | Sealed          |
| Bathroom         | 1        | Exhaust Fans | 200           | Sealed          |
| Laundry          | 1        | Downlights   | 80            | Sealed          |

## Ceiling fans

\* Refer to glossary.

| Location          | Quantity | Diameter (mm) |
|-------------------|----------|---------------|
| No Data Available |          |               |

**Roof type**

| Construction                                                | Added insulation (R-value) | Solar absorptance | Roof shade |
|-------------------------------------------------------------|----------------------------|-------------------|------------|
| Slab:Slab - Suspended Slab : 250mm: 250mm<br>Suspended Slab | 0.0                        | 0.5               | Medium     |

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## Explanatory Notes

### About this report

A NatHERS rating is a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate an energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances or energy production of solar panels.

Ratings are based on a unique climate zone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. The actual energy consumption of a home may vary significantly from the predicted energy load, as the assumptions used in the rating will not match actual usage patterns. For example, the number of occupants and personal heating or cooling preferences will vary.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparing different dwelling designs and to demonstrate that the design meets the energy efficiency requirements in the National Construction Code. Homes that are energy efficient use less energy, are warmer on cool days, cooler on hot days and cost less to run. The higher the star rating the more thermally efficient the dwelling is.

### Accredited assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accredited Organisation (AAO).

Australian Capital Territory (ACT) licensed assessors may only produce assessments for regulatory purposes using software for which they have a licence endorsement. Licence endorsement is confirmed on the ACT licensing register

AAOs have specific quality assurance processes in place, and continuing professional development requirements, to maintain a high and consistent standard of assessments across the country.

Non-accredited assessors do not have this level of quality assurance or any ongoing training requirements.

Any questions or concerns about this report should be directed to the assessor in the first instance. If the assessor is unable to address these questions or concerns, the AAO specified on the front of this certificate should be contacted.

### Disclaimer

The format of the NatHERS Certificate was developed by the NatHERS Administrator. However the content of each individual certificate is entered and created by the assessor to create a NatHERS Certificate. It is the responsibility of the assessor who prepared this certificate to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce a NatHERS Certificate.

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

No assessment information that may have been made by the assessor while using the NatHERS accredited software tool are presented in this report and further details or data files may be available from the assessor.

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## Glossary

|                                      |                                                                                                                                                                                                                                                                                             |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Annual energy load</b>            | the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.                                                                                                                                                                                   |
| <b>Assessed floor area</b>           | the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.                                                                                                                            |
| <b>Ceiling penetrations</b>          | features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts. |
| <b>Conditioned</b>                   | a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.                                                                                                                            |
| <b>Custom windows</b>                | windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.                                                                                                                                                      |
| <b>Default windows</b>               | windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.                                                                                                                                                         |
| <b>Entrance door</b>                 | these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.                                                                                                                      |
| <b>Exposure category - exposed</b>   | terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).                                                                                                                                                              |
| <b>Exposure category - open</b>      | terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).                                                                       |
| <b>Exposure category - suburban</b>  | terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.                                                                                                                                                                       |
| <b>Exposure category - protected</b> | terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.                                                                                                                                                                                                |
| <b>Horizontal shading feature</b>    | provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.                                                                                                                                           |



|                                               |                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>National Construction Code (NCC) Class</b> | the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at <a href="http://www.abcb.gov.au">www.abcb.gov.au</a> .                                                                        |
| <b>Opening Percentage</b>                     | the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.                                                                                                                                                                                                                     |
| <b>Provisional value</b>                      | an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at <a href="http://www.nathers.gov.au">www.nathers.gov.au</a> |
| <b>Reflective wrap</b> (also known as foil)   | can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.                                                                                                                                                                                           |
| <b>Roof window</b>                            | for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.                                                                                                                                                     |
| <b>Shading device</b>                         | a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.                                                                                                                                                                                                                                       |
| <b>Shading features</b>                       | includes neighbouring buildings, fences, and wing walls, but excludes eaves.                                                                                                                                                                                                                                                             |
| <b>Solar heat gain coefficient (SHGC)</b>     | the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.                                                                          |
| <b>Skylight</b> (also known as roof lights)   | for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.                                                                                                                                                                                                               |
| <b>U-value</b>                                | the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.                                                                                                                                                                                                                                    |
| <b>Unconditioned</b>                          | a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.                                                                                                                                                                                                                     |
| <b>Vertical shading features</b>              | provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).                                                                    |

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# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. S4YP0ARX6X

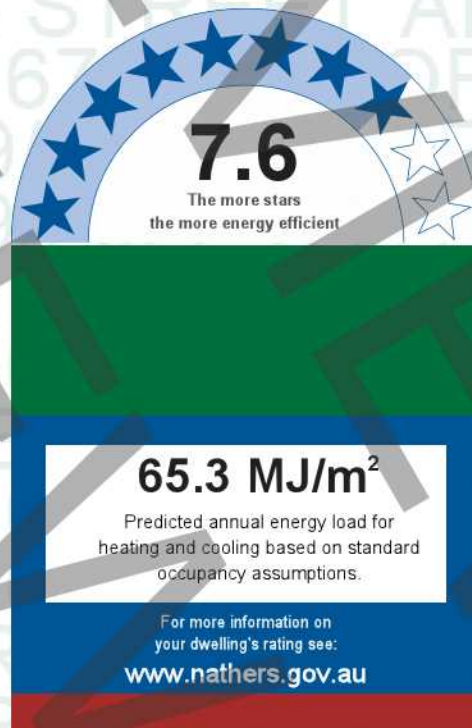
Generated on 9 Sep 2022 using FirstRate5: 5.3.2b (3.21)

### Property

**Address** 3.02, 675 Victoria Street, Abbotsford, VIC, 3067  
**Lot/DP** -  
**NCC Class\*** Class 2  
**Type** New Home

### Plans

**Main plan** -  
**Prepared by** -



### Construction and environment

**Assessed floor area (m<sup>2</sup>)\***  
Conditioned\* 45.5  
Unconditioned\* 5.2  
Total 50.7  
Garage -

#### Exposure type

open

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NatHERS climate zone  
21 Melbourne RO

### Thermal performance

#### Heating

49.7  
MJ/m<sup>2</sup>

#### Cooling

15.6  
MJ/m<sup>2</sup>

#### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

### Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting [www.FR5.com.au](http://www.FR5.com.au).



### Accredited assessor

**Name** Gary Wertheimer  
**Business name** GIW Environmental Solutions  
**Email** [gary@giw.com.au](mailto:gary@giw.com.au)  
**Phone** 0390445111  
**Accreditation No.** DMN/10/2024  
**Assessor Accrediting Organisation** Design Matters National  
**Declaration of interest** Declaration completed: no conflicts

### National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated houses are detailed in 3.12.0(a)(i) and 3.12.5 of the NCC Volume Two. For apartments the requirements are detailed in J0.2 and J5 to J8 of the NCC Volume One.

In NCC 2019, these requirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Requirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to: insulation installation methods, thermal breaks, building sealing, water heating and pumping, and artificial lighting requirements. The NCC and NatHERS Heating and Cooling Load Limits (Australian Building Codes Board Standard) are available at [www.abcb.gov.au](http://www.abcb.gov.au).

State and territory variations and additions to the NCC may also apply.



## Certificate Check

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page?  
Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

### Provisional\* values

Have provisional values been used in the assessment and if so, noted in "additional notes" below?

## Additional Notes

### Window and glazed door type and performance

#### Default\* windows

| Window ID         | Window description | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|-------------------|--------------------|------------------|-------|-------------------------------|------------------|
|                   |                    |                  |       | SHGC lower limit              | SHGC upper limit |
| No Data Available |                    |                  |       |                               |                  |

#### Custom\* windows

| Window ID    | Window description                              | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|--------------|-------------------------------------------------|------------------|-------|-------------------------------|------------------|
|              |                                                 |                  |       | SHGC lower limit              | SHGC upper limit |
| CAP-055-52 A | Capral 419 Flushline Fixed Window DG 6/12Ar/6EA | 2.71             | 0.58  | 0.55                          | 0.61             |
| CAP-057-13 A | Capral 900 Sliding Door DG 6EA/12Ar/6           | 3.19             | 0.48  | 0.46                          | 0.5              |
| CAP-051-06 A | Capral 35 Awning in 400 Frame DG 6EA/12Ar/6     | 4.42             | 0.41  | 0.39                          | 0.43             |

## Window and glazed door Schedule

| Location       | Window ID    | Window no. | Height (mm) | Width (mm) | Window type | Opening % | Orientation | Window shading device* |
|----------------|--------------|------------|-------------|------------|-------------|-----------|-------------|------------------------|
| Kitchen/Living | CAP-055-52 A | Opening 5  | 3000        | 581        | fixed       | 0.0       | S           | No                     |
| Kitchen/Living | CAP-057-13 A | Opening 7  | 3000        | 2540       | sliding     | 30.0      | S           | No                     |

\* Refer to glossary.

|         |              |           |      |      |         |      |   |    |
|---------|--------------|-----------|------|------|---------|------|---|----|
| Bedroom | CAP-057-13 A | Opening 7 | 3000 | 1920 | sliding | 30.0 | S | No |
| Bedroom | CAP-051-06 A | Opening 8 | 3000 | 924  | awning  | 60.0 | S | No |

## Roof window type and performance value

### Default\* roof windows

| Window ID         | Window description | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|-------------------|--------------------|------------------|-------|-------------------------------|------------------|
|                   |                    |                  |       | SHGC lower limit              | SHGC upper limit |
| No Data Available |                    |                  |       |                               |                  |

### Custom\* roof windows

| Window ID         | Window description | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|-------------------|--------------------|------------------|-------|-------------------------------|------------------|
|                   |                    |                  |       | SHGC lower limit              | SHGC upper limit |
| No Data Available |                    |                  |       |                               |                  |

## Roof window schedule

| Location          | Window ID | Window no. | Opening % | Area (m²) | Orientation | Outdoor shade | Indoor shade |
|-------------------|-----------|------------|-----------|-----------|-------------|---------------|--------------|
| No Data Available |           |            |           |           |             |               |              |

## Skylight type and performance

| Skylight ID       | Skylight description |
|-------------------|----------------------|
| No Data Available |                      |

## Skylight schedule

| Location          | Skylight ID | Skylight No. | Skylight shaft length (mm) | Area (m²) | Orientation | Outdoor shade | Diffuser | Skylight shaft reflectance |
|-------------------|-------------|--------------|----------------------------|-----------|-------------|---------------|----------|----------------------------|
| No Data Available |             |              |                            |           |             |               |          |                            |

## External door schedule

| Location          | Height (mm) | Width (mm) | Opening % | Orientation |
|-------------------|-------------|------------|-----------|-------------|
| No Data Available |             |            |           |             |

## External wall type

| Wall ID | Wall type                                | Solar absorptance | Wall shade (colour) | Bulk insulation (R-value)                              | Reflective wall wrap* |
|---------|------------------------------------------|-------------------|---------------------|--------------------------------------------------------|-----------------------|
| 1       | 675 Victoria Street - Ext. Concrete Wall | 0.5               | Medium              | Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.5) | No                    |
| 2       | 675 Victoria Street - Int. Wall          | 0.5               | Medium              | Glass fibre batt (k = 0.044 density = 12 kg/m3) (R1.8) | No                    |

## External wall schedule

| Location       | Wall ID | Height (mm) | Width (mm) | Orientation | Horizontal shading feature* maximum projection (mm) | Vertical shading feature (yes/no) |
|----------------|---------|-------------|------------|-------------|-----------------------------------------------------|-----------------------------------|
| Kitchen/Living | 1       | 3000        | 3266       | S           | 2197                                                | Yes                               |



|                |   |      |      |   |      |     |
|----------------|---|------|------|---|------|-----|
| Kitchen/Living | 2 | 3000 | 1573 | E | 0    | No  |
| Kitchen/Living | 2 | 3000 | 4527 | N | 0    | No  |
| Kitchen/Living | 2 | 3000 | 7565 | W | 0    | No  |
| Bedroom        | 1 | 3000 | 2990 | S | 1097 | Yes |
| Bedroom        | 1 | 3000 | 1489 | E | 4388 | Yes |
| Bedroom        | 2 | 3000 | 2558 | E | 0    | No  |
| Bedroom        | 1 | 3000 | 1153 | W | 3165 | Yes |
| Bathroom       | 2 | 3000 | 2882 | E | 0    | No  |
| Bathroom       | 2 | 3000 | 1789 | N | 0    | No  |

## Internal wall type

| Wall ID | Wall type                             | Area (m²) | Bulk insulation |
|---------|---------------------------------------|-----------|-----------------|
| 1       | FR5 - Internal Plasterboard Stud Wall | 31.5      |                 |

## Floor type

| Location       | Construction              | Area (m²) | Sub-floor ventilation | Added insulation (R-value) | Covering |
|----------------|---------------------------|-----------|-----------------------|----------------------------|----------|
| Kitchen/Living | FR5 - 200mm concrete slab | 33.4      | Enclosed              | R0.0                       | Timber   |
| Bedroom        | FR5 - 200mm concrete slab | 12        | Enclosed              | R0.0                       | Carpet   |
| Bathroom       | FR5 - 200mm concrete slab | 5.2       | Enclosed              | R0.0                       | Tiles    |

## Ceiling type

| Location          | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* |
|-------------------|----------------------------|--------------------------------------------------------|------------------|
| No Data Available |                            |                                                        |                  |

## Ceiling penetrations\*

| Location       | Quantity | Type         | Diameter (mm) | Sealed/unsealed |
|----------------|----------|--------------|---------------|-----------------|
| Kitchen/Living | 13       | Downlights   | 80            | Sealed          |
| Kitchen/Living | 1        | Exhaust Fans | 200           | Sealed          |
| Bedroom        | 5        | Downlights   | 80            | Sealed          |
| Bathroom       | 2        | Downlights   | 80            | Sealed          |
| Bathroom       | 1        | Exhaust Fans | 200           | Sealed          |

## Ceiling fans

| Location          | Quantity | Diameter (mm) |
|-------------------|----------|---------------|
| No Data Available |          |               |

## Roof type

| Construction                                                 | Added insulation (R-value) | Solar absorptance | Roof shade |
|--------------------------------------------------------------|----------------------------|-------------------|------------|
| Slab: Slab - Suspended Slab : 200mm: 200mm<br>Suspended Slab | 0.0                        | 0.5               | Medium     |



## Explanatory Notes

### About this report

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While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparing different dwelling designs and to demonstrate that the design meets the energy efficiency requirements in the National Construction Code. Homes that are energy efficient use less energy, are warmer on cool days, cooler on hot days and cost less to run. The higher the star rating the more thermally efficient the dwelling is.

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|                                      |                                                                                                                                                                                                                                                                                             |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Annual energy load</b>            | the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.                                                                                                                                                                                   |
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| <b>Custom windows</b>                | windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.                                                                                                                                                      |
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| <b>Exposure category - exposed</b>   | terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).                                                                                                                                                              |
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| <b>Exposure category - suburban</b>  | terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.                                                                                                                                                                       |
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| <b>Horizontal shading feature</b>    | provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.                                                                                                                                           |

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|                                               |                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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| <b>Opening Percentage</b>                     | the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.                                                                                                                                                                                                                     |
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| <b>Reflective wrap</b> (also known as foil)   | can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.                                                                                                                                                                                           |
| <b>Roof window</b>                            | for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.                                                                                                                                                     |
| <b>Shading device</b>                         | a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.                                                                                                                                                                                                                                       |
| <b>Shading features</b>                       | includes neighbouring buildings, fences, and wing walls, but excludes eaves.                                                                                                                                                                                                                                                             |
| <b>Solar heat gain coefficient (SHGC)</b>     | the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.                                                                          |
| <b>Skylight</b> (also known as roof lights)   | for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.                                                                                                                                                                                                               |
| <b>U-value</b>                                | the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.                                                                                                                                                                                                                                    |
| <b>Unconditioned</b>                          | a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.                                                                                                                                                                                                                     |
| <b>Vertical shading features</b>              | provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).                                                                    |

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# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. HHN6888JXI

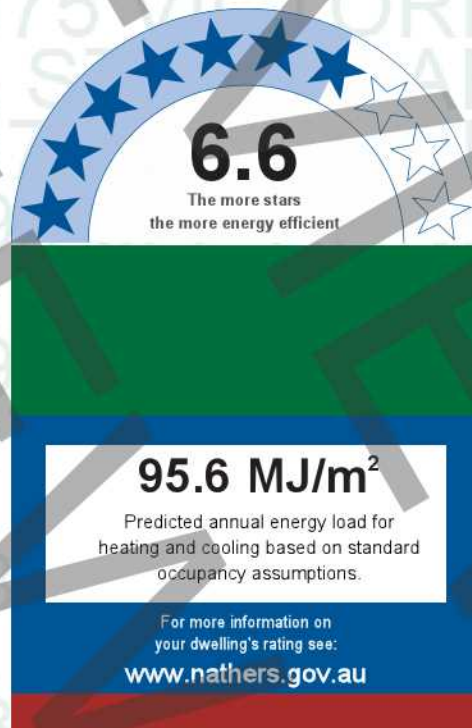
Generated on 9 Sep 2022 using FirstRate5: 5.3.2b (3.21)

### Property

**Address** 3.03, 675 Victoria Street, Abbotsford, VIC, 3067  
**Lot/DP** -  
**NCC Class\*** Class 2  
**Type** New Home

### Plans

**Main plan** -  
**Prepared by** -



### Construction and environment

**Assessed floor area (m²)\***  
**Conditioned\*** 74.8  
**Unconditioned\*** 1.1  
**Total** 75.9  
**Garage** -

#### Exposure type

suburban

NatHERS climate zone

21 Melbourne RO

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### Accredited assessor

**Name** Gary Wertheimer  
**Business name** GIW Environmental Solutions  
**Email** gary@giw.com.au  
**Phone** 0390445111  
**Accreditation No.** DMN/10/2024  
**Assessor Accrediting Organisation** Design Matters National  
**Declaration of interest** Declaration completed: no conflicts

### Thermal performance

#### Heating

7.3  
MJ/m²

#### Cooling

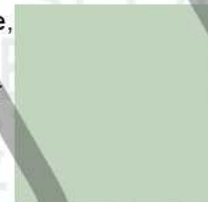
22.6  
MJ/m²

#### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

### Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting [www.FR5.com.au](http://www.FR5.com.au).



### National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated houses are detailed in 3.12.0(a)(i) and 3.12.5 of the NCC Volume Two. For apartments the requirements are detailed in J0.2 and J5 to J8 of the NCC Volume One.

In NCC 2019, these requirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Requirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to: insulation installation methods, thermal breaks, building sealing, water heating and pumping, and artificial lighting requirements. The NCC and NatHERS Heating and Cooling Load Limits (Australian Building Codes Board Standard) are available at [www.abcb.gov.au](http://www.abcb.gov.au).

State and territory variations and additions to the NCC may also apply.



## Certificate Check

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page?  
Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

### Provisional\* values

Have provisional values been used in the assessment and if so, noted in "additional notes" below?

## Additional Notes

### Window and glazed door type and performance

#### Default\* windows

| Window ID         | Window description | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|-------------------|--------------------|------------------|-------|-------------------------------|------------------|
|                   |                    |                  |       | SHGC lower limit              | SHGC upper limit |
| No Data Available |                    |                  |       |                               |                  |

#### Custom\* windows

| Window ID    | Window description                              | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|--------------|-------------------------------------------------|------------------|-------|-------------------------------|------------------|
|              |                                                 |                  |       | SHGC lower limit              | SHGC upper limit |
| CAP-055-52 A | Capral 419 Flushline Fixed Window DG 6/12Ar/6EA | 2.71             | 0.58  | 0.55                          | 0.61             |
| CAP-057-13 A | Capral 900 Sliding Door DG 6EA/12Ar/6           | 3.19             | 0.48  | 0.46                          | 0.5              |
| CAP-051-06 A | Capral 35 Awning in 400 Frame DG 6EA/12Ar/6     | 4.42             | 0.41  | 0.39                          | 0.43             |

## Window and glazed door Schedule

| Location         | Window ID    | Window no. | Height (mm) | Width (mm) | Window type | Opening % | Orientation | Window shading device* |
|------------------|--------------|------------|-------------|------------|-------------|-----------|-------------|------------------------|
| Kitchen/Living 1 | CAP-055-52 A | Opening 12 | 3000        | 959        | fixed       | 0.0       | S           | No                     |
| Kitchen/Living 1 | CAP-057-13 A | Opening 13 | 3000        | 2684       | sliding     | 45.0      | S           | No                     |

\* Refer to glossary.

|                  |              |            |      |      |         |      |   |    |
|------------------|--------------|------------|------|------|---------|------|---|----|
| Kitchen/Living 1 | CAP-055-52 A | Opening 14 | 3000 | 3840 | fixed   | 0.0  | S | No |
| Kitchen/Living 1 | CAP-055-52 A | Opening 11 | 1900 | 1556 | fixed   | 0.0  | W | No |
| Bedroom 2        | CAP-051-06 A | Opening 10 | 3000 | 2350 | awning  | 30.0 | W | No |
| Bedroom 1        | CAP-057-13 A | Opening 9  | 3000 | 2325 | sliding | 45.0 | W | No |

## Roof window type and performance value

### Default\* roof windows

| Window ID         | Window description | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|-------------------|--------------------|------------------|-------|-------------------------------|------------------|
|                   |                    |                  |       | SHGC lower limit              | SHGC upper limit |
| No Data Available |                    |                  |       |                               |                  |

### Custom\* roof windows

| Window ID         | Window description | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|-------------------|--------------------|------------------|-------|-------------------------------|------------------|
|                   |                    |                  |       | SHGC lower limit              | SHGC upper limit |
| No Data Available |                    |                  |       |                               |                  |

## Roof window schedule

| Location          | Window ID | Window no. | Opening % | Area (m <sup>2</sup> ) | Orientation | Outdoor shade | Indoor shade |
|-------------------|-----------|------------|-----------|------------------------|-------------|---------------|--------------|
| No Data Available |           |            |           |                        |             |               |              |

## Skylight type and performance

| Skylight ID       | Skylight description |
|-------------------|----------------------|
| No Data Available |                      |

## Skylight schedule

| Location          | Skylight ID | Skylight No. | Skylight shaft length (mm) | Area (m <sup>2</sup> ) | Orientation | Outdoor shade | Diffuser | Skylight shaft reflectance |
|-------------------|-------------|--------------|----------------------------|------------------------|-------------|---------------|----------|----------------------------|
| No Data Available |             |              |                            |                        |             |               |          |                            |

## External door schedule

| Location          | Height (mm) | Width (mm) | Opening % | Orientation |
|-------------------|-------------|------------|-----------|-------------|
| No Data Available |             |            |           |             |

## External wall type

| Wall ID | Wall type                           | Solar absorptance | Wall shade (colour) | Bulk insulation (R-value)                              | Reflective wall wrap* |
|---------|-------------------------------------|-------------------|---------------------|--------------------------------------------------------|-----------------------|
| 1       | 675 Victoria st - Ext concrete Wall | 0.5               | Medium              | Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.5) | No                    |
| 2       | 675 Victoria Street - Int. Wall     | 0.5               | Medium              | Glass fibre batt (k = 0.044 density = 12 kg/m3) (R1.8) | No                    |

## External wall schedule



| Location         | Wall ID | Height (mm) | Width (mm) | Orientation | Horizontal shading feature* maximum projection (mm) | Vertical shading feature (yes/no) |
|------------------|---------|-------------|------------|-------------|-----------------------------------------------------|-----------------------------------|
| Kitchen/Living 1 | 1       | 3000        | 7573       | S           | 2207                                                | Yes                               |
| Kitchen/Living 1 | 2       | 3000        | 5538       | E           | 0                                                   | No                                |
| Kitchen/Living 1 | 1       | 3000        | 3699       | W           | 4730                                                | Yes                               |
| Bedroom 2        | 1       | 3000        | 3388       | W           | 4739                                                | Yes                               |
| Bedroom 1        | 2       | 3000        | 4272       | N           | 0                                                   | No                                |
| Bedroom 1        | 1       | 3000        | 594        | W           | 0                                                   | Yes                               |
| Bedroom 1        | 1       | 3000        | 2368       | W           | 4708                                                | Yes                               |
| Ensuite          | 2       | 3000        | 1778       | E           | 0                                                   | No                                |
| Ensuite          | 2       | 3000        | 3279       | N           | 0                                                   | No                                |
| Bathroom         | 2       | 3000        | 2693       | E           | 0                                                   | No                                |

## Internal wall type

| Wall ID | Wall type                             | Area (m <sup>2</sup> ) | Bulk insulation |
|---------|---------------------------------------|------------------------|-----------------|
| 1       | FR5 - Internal Plasterboard Stud Wall | 72.5                   |                 |

## Floor type

| Location         | Construction              | Area (m <sup>2</sup> ) | Sub-floor ventilation | Added insulation (R-value) | Covering |
|------------------|---------------------------|------------------------|-----------------------|----------------------------|----------|
| Kitchen/Living 1 | FR5 - 250mm concrete slab | 37.4                   | Enclosed              | R0.0                       | Timber   |
| Bedroom 2        | FR5 - 250mm concrete slab | 12.3                   | Enclosed              | R0.0                       | Carpet   |
| Bedroom 1        | FR5 - 250mm concrete slab | 14.7                   | Enclosed              | R0.0                       | Carpet   |
| Ensuite          | FR5 - 250mm concrete slab | 5.9                    | Enclosed              | R0.0                       | Tiles    |
| Bathroom         | FR5 - 250mm concrete slab | 4.4                    | Enclosed              | R0.0                       | Tiles    |
| Laundry          | FR5 - 250mm concrete slab | 1.1                    | Enclosed              | R0.0                       | Timber   |

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## Ceiling type

| Location          | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* |
|-------------------|----------------------------|--------------------------------------------------------|------------------|
| No Data Available |                            |                                                        |                  |

## Ceiling penetrations\*

| Location         | Quantity | Type         | Diameter (mm) | Sealed/unsealed |
|------------------|----------|--------------|---------------|-----------------|
| Kitchen/Living 1 | 15       | Downlights   | 80            | Sealed          |
| Kitchen/Living 1 | 1        | Exhaust Fans | 200           | Sealed          |
| Bedroom 2        | 4        | Downlights   | 80            | Sealed          |
| Bedroom 1        | 6        | Downlights   | 80            | Sealed          |
| Ensuite          | 2        | Downlights   | 80            | Sealed          |
| Ensuite          | 1        | Exhaust Fans | 200           | Sealed          |
| Bathroom         | 2        | Downlights   | 80            | Sealed          |
| Bathroom         | 1        | Exhaust Fans | 200           | Sealed          |
| Laundry          | 1        | Downlights   | 80            | Sealed          |

**Ceiling fans**

| Location          | Quantity | Diameter (mm) |
|-------------------|----------|---------------|
| No Data Available |          |               |

**Roof type**

| Construction                                                 | Added insulation (R-value) | Solar absorptance | Roof shade |
|--------------------------------------------------------------|----------------------------|-------------------|------------|
| Slab: Slab - Suspended Slab : 250mm: 250mm<br>Suspended Slab | 0.0                        | 0.5               | Medium     |

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| <b>Shading device</b>                         | a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.                                                                                                                                                                                                                                       |
| <b>Shading features</b>                       | includes neighbouring buildings, fences, and wing walls, but excludes eaves.                                                                                                                                                                                                                                                             |
| <b>Solar heat gain coefficient (SHGC)</b>     | the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.                                                                          |
| <b>Skylight</b> (also known as roof lights)   | for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.                                                                                                                                                                                                               |
| <b>U-value</b>                                | the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.                                                                                                                                                                                                                                    |
| <b>Unconditioned</b>                          | a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.                                                                                                                                                                                                                     |
| <b>Vertical shading features</b>              | provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).                                                                    |

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# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. PLIYKV17W4

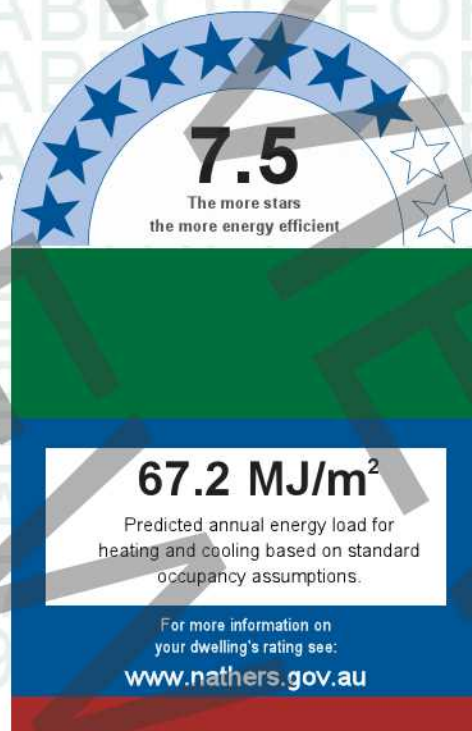
Generated on 9 Sep 2022 using FirstRate5: 5.3.2b (3.21)

### Property

**Address** 4.09, 675 Victoria Street, Abbotsford, VIC, 3067  
**Lot/DP** -  
**NCC Class\*** Class 2  
**Type** New Home

### Plans

**Main plan** -  
**Prepared by** -



### Construction and environment

**Assessed floor area (m<sup>2</sup>)\***  
**Conditioned\*** 142.6  
**Unconditioned\*** 0  
**Total** 142.6  
**Garage** -

#### Exposure type

open

NatHERS climate zone

21 Melbourne RO

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### Thermal performance

#### Heating

**54.2**  
**MJ/m<sup>2</sup>**

#### Cooling

**13**  
**MJ/m<sup>2</sup>**

#### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

### Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting [www.FR5.com.au](http://www.FR5.com.au).



### Accredited assessor

**Name** Gary Wertheimer  
**Business name** GIW Environmental Solutions  
**Email** [gary@giw.com.au](mailto:gary@giw.com.au)  
**Phone** 0390445111  
**Accreditation No.** DMN/10/2024  
**Assessor Accrediting Organisation** Design Matters National  
**Declaration of interest** Declaration completed: no conflicts

### National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated houses are detailed in 3.12.0(a)(i) and 3.12.5 of the NCC Volume Two. For apartments the requirements are detailed in J0.2 and J5 to J8 of the NCC Volume One.

In NCC 2019, these requirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Requirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to: insulation installation methods, thermal breaks, building sealing, water heating and pumping, and artificial lighting requirements. The NCC and NatHERS Heating and Cooling Load Limits (Australian Building Codes Board Standard) are available at [www.abcb.gov.au](http://www.abcb.gov.au).

State and territory variations and additions to the NCC may also apply.



## Certificate Check

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page?  
Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

### Provisional\* values

Have provisional values been used in the assessment and if so noted in "additional notes" below?

## Additional Notes

### Window and glazed door type and performance

#### Default\* windows

| Window ID         | Window description | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|-------------------|--------------------|------------------|-------|-------------------------------|------------------|
|                   |                    |                  |       | SHGC lower limit              | SHGC upper limit |
| No Data Available |                    |                  |       |                               |                  |

#### Custom\* windows

| Window ID    | Window description                              | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|--------------|-------------------------------------------------|------------------|-------|-------------------------------|------------------|
|              |                                                 |                  |       | SHGC lower limit              | SHGC upper limit |
| CAP-051-06 A | Capral 35 Awning in 400 Frame DG 6EA/12Ar/6     | 4.42             | 0.41  | 0.39                          | 0.43             |
| CAP-055-52 A | Capral 419 Flushline Fixed Window DG 6/12Ar/6EA | 2.71             | 0.58  | 0.55                          | 0.61             |
| CAP-057-13 A | Capral 900 Sliding Door DG 6EA/12Ar/6           | 3.19             | 0.48  | 0.46                          | 0.5              |

### Window and glazed door Schedule

| Location       | Window ID    | Window no. | Height (mm) | Width (mm) | Window type | Opening % | Orientation | Window shading device* |
|----------------|--------------|------------|-------------|------------|-------------|-----------|-------------|------------------------|
| Kitchen/Living | CAP-051-06 A | Opening 15 | 3000        | 1225       | awning      | 60.0      | E           | No                     |
| Kitchen/Living | CAP-055-52 A | Opening 13 | 3000        | 660        | fixed       | 0.0       | N           | No                     |

\* Refer to glossary.

|                |              |            |      |      |         |      |   |    |
|----------------|--------------|------------|------|------|---------|------|---|----|
| Kitchen/Living | CAP-057-13 A | Opening 14 | 3000 | 1961 | sliding | 45.0 | N | No |
| Kitchen/Living | CAP-055-52 A | Opening 10 | 3000 | 914  | fixed   | 0.0  | N | No |
| Kitchen/Living | CAP-057-13 A | Opening 11 | 3000 | 3103 | sliding | 45.0 | N | No |
| Kitchen/Living | CAP-055-52 A | Opening 12 | 3000 | 901  | fixed   | 0.0  | N | No |
| Study          | CAP-055-52 A | Opening 29 | 3000 | 1129 | fixed   | 0.0  | E | No |
| Study          | CAP-051-06 A | Opening 30 | 3000 | 1260 | awning  | 60.0 | E | No |
| Bedroom 1      | CAP-051-06 A | Opening 17 | 3000 | 1218 | awning  | 60.0 | E | No |
| Bedroom 2      | CAP-051-06 A | Opening 19 | 3000 | 1218 | awning  | 60.0 | E | No |
| Bedroom 3      | CAP-051-06 A | Opening 18 | 3000 | 1218 | awning  | 60.0 | E | No |

## Roof window type and performance value

### Default\* roof windows

| Window ID         | Window description | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|-------------------|--------------------|------------------|-------|-------------------------------|------------------|
|                   |                    |                  |       | SHGC lower limit              | SHGC upper limit |
| No Data Available |                    |                  |       |                               |                  |

### Custom\* roof windows

| Window ID         | Window description | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|-------------------|--------------------|------------------|-------|-------------------------------|------------------|
|                   |                    |                  |       | SHGC lower limit              | SHGC upper limit |
| No Data Available |                    |                  |       |                               |                  |

## Roof window schedule

| Location          | Window ID | Window no. | Opening % | Area (m²) | Orientation | Outdoor shade | Indoor shade |
|-------------------|-----------|------------|-----------|-----------|-------------|---------------|--------------|
| No Data Available |           |            |           |           |             |               |              |

## Skylight type and performance

| Skylight ID       | Skylight description |
|-------------------|----------------------|
| No Data Available |                      |

## Skylight schedule

| Location          | Skylight ID | Skylight No. | Skylight shaft length (mm) | Area (m²) | Orientation | Outdoor shade | Diffuser | Skylight shaft reflectance |
|-------------------|-------------|--------------|----------------------------|-----------|-------------|---------------|----------|----------------------------|
| No Data Available |             |              |                            |           |             |               |          |                            |

## External door schedule

| Location          | Height (mm) | Width (mm) | Opening % | Orientation |
|-------------------|-------------|------------|-----------|-------------|
| No Data Available |             |            |           |             |

## External wall type

| Wall ID | Wall type                                | Solar absorptance | Wall shade (colour) | Bulk insulation (R-value)                              | Reflective wall wrap* |
|---------|------------------------------------------|-------------------|---------------------|--------------------------------------------------------|-----------------------|
| 1       | 675 Victoria Street - Ext. Concrete Wall | 0.5               | Medium              | Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.5) | No                    |



|   |                                 |     |        |                                                        |    |
|---|---------------------------------|-----|--------|--------------------------------------------------------|----|
| 2 | 675 Victoria Street - Int. Wall | 0.5 | Medium | Glass fibre batt (k = 0.044 density = 12 kg/m3) (R1.8) | No |
| 3 | FR5 - Brick Veneer              | 0.5 | Medium |                                                        | No |

### External wall *schedule*

| Location       | Wall ID | Height (mm) | Width (mm) | Orientation | Horizontal shading feature* maximum projection (mm) | Vertical shading feature (yes/no) |
|----------------|---------|-------------|------------|-------------|-----------------------------------------------------|-----------------------------------|
| Kitchen/Living | 1       | 3000        | 2788       | E           | 0                                                   | Yes                               |
| Kitchen/Living | 1       | 3000        | 2839       | N           | 3930                                                | Yes                               |
| Kitchen/Living | 1       | 3000        | 5101       | N           | 3930                                                | Yes                               |
| Kitchen/Living | 2       | 3000        | 8858       | W           | 0                                                   | No                                |
| Study          | 1       | 3000        | 2935       | E           | 0                                                   | Yes                               |
| Bedroom 1      | 1       | 3000        | 3627       | E           | 0                                                   | Yes                               |
| Bedroom 2      | 1       | 3000        | 3581       | E           | 0                                                   | Yes                               |
| Bedroom 3      | 2       | 3000        | 2213       | S           | 0                                                   | No                                |
| Bedroom 3      | 1       | 3000        | 2253       | S           | 0                                                   | No                                |
| Bedroom 3      | 1       | 3000        | 2916       | E           | 0                                                   | Yes                               |
| WIR            | 2       | 3000        | 2442       | S           | 0                                                   | No                                |
| Ensuite        | 1       | 3000        | 3590       | S           | 0                                                   | No                                |
| Ensuite        | 1       | 3000        | 2408       | W           | 0                                                   | No                                |
| Powder         | 2       | 3000        | 877        | W           | 0                                                   | No                                |
| Powder         | 3       | 3000        | 581        | N           | 0                                                   | Yes                               |
| Laundry        | 2       | 3000        | 2722       | N           | 0                                                   | No                                |
| Laundry        | 2       | 3000        | 2399       | W           | 0                                                   | No                                |
| Hall           | 2       | 3000        | 673        | S           | 0                                                   | No                                |
| Hall           | 2       | 3000        | 1403       | W           | 0                                                   | No                                |

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### Internal wall *type*

| Wall ID | Wall type                             | Area (m²) | Bulk insulation |
|---------|---------------------------------------|-----------|-----------------|
| 1       | FR5 - Internal Plasterboard Stud Wall | 158.8     |                 |

### Floor *type*

| Location       | Construction              | Area (m²) | Sub-floor ventilation | Added insulation (R-value) | Covering |
|----------------|---------------------------|-----------|-----------------------|----------------------------|----------|
| Kitchen/Living | FR5 - 250mm concrete slab | 51.7      | Enclosed              | R0.0                       | Timber   |
| Study          | FR5 - 250mm concrete slab | 8.3       | Enclosed              | R0.0                       | Timber   |
| Bedroom 1      | FR5 - 250mm concrete slab | 10.7      | Enclosed              | R0.0                       | Carpet   |
| Bedroom 2      | FR5 - 250mm concrete slab | 10.7      | Enclosed              | R0.0                       | Carpet   |
| Bedroom 3      | FR5 - 250mm concrete slab | 13        | Enclosed              | R0.0                       | Carpet   |
| WIR            | FR5 - 250mm concrete slab | 5.9       | Enclosed              | R0.0                       | Carpet   |
| Ensuite        | FR5 - 250mm concrete slab | 8.7       | Enclosed              | R0.0                       | Tiles    |
| Powder         | FR5 - 250mm concrete slab | 5.2       | Enclosed              | R0.0                       | Tiles    |



|         |                           |      |          |      |        |
|---------|---------------------------|------|----------|------|--------|
| Laundry | FR5 - 250mm concrete slab | 6.5  | Enclosed | R0.0 | Tiles  |
| Pantry  | FR5 - 250mm concrete slab | 6.4  | Enclosed | R0.0 | Timber |
| Hall    | FR5 - 250mm concrete slab | 15.5 | Enclosed | R0.0 | Timber |

**Ceiling type**

| Location          | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* |
|-------------------|----------------------------|--------------------------------------------------------|------------------|
| No Data Available |                            |                                                        |                  |

**Ceiling penetrations\***

| Location       | Quantity | Type         | Diameter (mm) | Sealed/unsealed |
|----------------|----------|--------------|---------------|-----------------|
| Kitchen/Living | 16       | Downlights   | 80            | Sealed          |
| Kitchen/Living | 1        | Exhaust Fans | 200           | Sealed          |
| Study          | 3        | Downlights   | 80            | Sealed          |
| Bedroom 1      | 4        | Downlights   | 80            | Sealed          |
| Bedroom 2      | 4        | Downlights   | 80            | Sealed          |
| Bedroom 3      | 5        | Downlights   | 80            | Sealed          |
| WIR            | 2        | Downlights   | 80            | Sealed          |
| Ensuite        | 3        | Downlights   | 80            | Sealed          |
| Ensuite        | 1        | Exhaust Fans | 200           | Sealed          |
| Powder         | 2        | Downlights   | 80            | Sealed          |
| Powder         | 1        | Exhaust Fans | 200           | Sealed          |
| Laundry        | 3        | Downlights   | 80            | Sealed          |
| Laundry        | 1        | Exhaust Fans | 200           | Sealed          |
| Pantry         | 2        | Downlights   | 80            | Sealed          |
| Hall           | 6        | Downlights   | 80            | Sealed          |

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**Ceiling fans**

| Location          | Quantity | Diameter (mm) |
|-------------------|----------|---------------|
| No Data Available |          |               |

**Roof type**

| Construction                                              | Added insulation (R-value) | Solar absorptance | Roof shade |
|-----------------------------------------------------------|----------------------------|-------------------|------------|
| Slab: Slab - Suspended Slab : 250mm: 250mm Suspended Slab | 0.0                        | 0.5               | Medium     |

## Explanatory Notes

### About this report

A NatHERS rating is a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate an energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances or energy production of solar panels.

Ratings are based on a unique climate zone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. The actual energy consumption of a home may vary significantly from the predicted energy load, as the assumptions used in the rating will not match actual usage patterns. For example, the number of occupants and personal heating or cooling preferences will vary.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparing different dwelling designs and to demonstrate that the design meets the energy efficiency requirements in the National Construction Code. Homes that are energy efficient use less energy, are warmer on cool days, cooler on hot days and cost less to run. The higher the star rating the more thermally efficient the dwelling is.

### Accredited assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accredited Organisation (AAO).

Australian Capital Territory (ACT) licensed assessors may only produce assessments for regulatory purposes using software for which they have a licence endorsement. Licence endorsement is confirmed on the ACT licensing register

AAOs have specific quality assurance processes in place, and continuing professional development requirements, to maintain a high and consistent standard of assessments across the country.

Non-accredited assessors do not have this level of quality assurance or any ongoing training requirements.

Any questions or concerns about this report should be directed to the assessor in the first instance. If the assessor is unable to address these questions or concerns, the AAO specified on the front of this certificate should be contacted.

### Disclaimer

The format of the NatHERS Certificate was developed by the NatHERS Administrator. However the content of each individual certificate is entered and created by the assessor to create a NatHERS Certificate. It is the responsibility of the assessor who prepared this certificate to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce a NatHERS Certificate.

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

No assessment information that may have been made by the assessor while using the NatHERS accredited software tool are presented in this report and further details or data files may be available from the assessor.

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## Glossary

|                                      |                                                                                                                                                                                                                                                                                             |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Annual energy load</b>            | the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.                                                                                                                                                                                   |
| <b>Assessed floor area</b>           | the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.                                                                                                                            |
| <b>Ceiling penetrations</b>          | features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts. |
| <b>Conditioned</b>                   | a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.                                                                                                                            |
| <b>Custom windows</b>                | windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.                                                                                                                                                      |
| <b>Default windows</b>               | windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.                                                                                                                                                         |
| <b>Entrance door</b>                 | these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.                                                                                                                      |
| <b>Exposure category - exposed</b>   | terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).                                                                                                                                                              |
| <b>Exposure category - open</b>      | terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).                                                                       |
| <b>Exposure category - suburban</b>  | terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.                                                                                                                                                                       |
| <b>Exposure category - protected</b> | terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.                                                                                                                                                                                                |
| <b>Horizontal shading feature</b>    | provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.                                                                                                                                           |

|                                               |                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>National Construction Code (NCC) Class</b> | the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at <a href="http://www.abcb.gov.au">www.abcb.gov.au</a> .                                                                        |
| <b>Opening Percentage</b>                     | the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.                                                                                                                                                                                                                     |
| <b>Provisional value</b>                      | an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at <a href="http://www.nathers.gov.au">www.nathers.gov.au</a> |
| <b>Reflective wrap</b> (also known as foil)   | can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.                                                                                                                                                                                           |
| <b>Roof window</b>                            | for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.                                                                                                                                                     |
| <b>Shading device</b>                         | a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.                                                                                                                                                                                                                                       |
| <b>Shading features</b>                       | includes neighbouring buildings, fences, and wing walls, but excludes eaves.                                                                                                                                                                                                                                                             |
| <b>Solar heat gain coefficient (SHGC)</b>     | the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.                                                                          |
| <b>Skylight</b> (also known as roof lights)   | for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.                                                                                                                                                                                                               |
| <b>U-value</b>                                | the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.                                                                                                                                                                                                                                    |
| <b>Unconditioned</b>                          | a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.                                                                                                                                                                                                                     |
| <b>Vertical shading features</b>              | provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).                                                                    |

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# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. FDTMEJJJTI

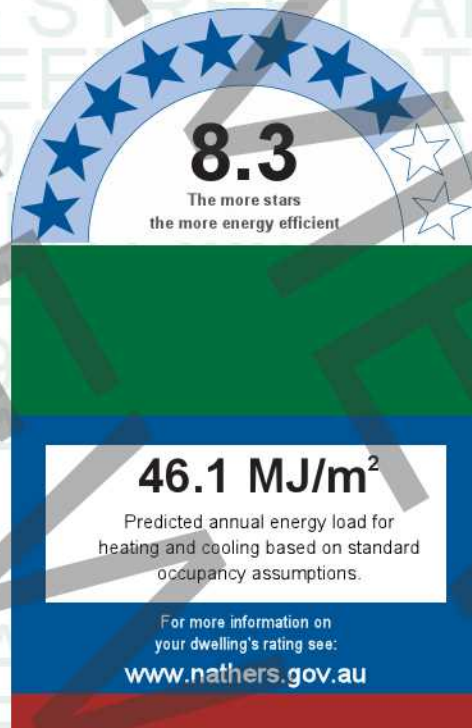
Generated on 9 Sep 2022 using FirstRate5: 5.3.2b (3.21)

### Property

**Address** 7.03, 675 Victoria Street, Abbotsford, VIC, 3067  
**Lot/DP** -  
**NCC Class\*** Class 2  
**Type** New Home

### Plans

**Main plan** -  
**Prepared by** -



### Construction and environment

**Assessed floor area (m<sup>2</sup>)\***  
**Conditioned\*** 86.2  
**Unconditioned\*** 4.1  
**Total** 90.3  
**Garage** -

#### Exposure type

open

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NatHERS climate zone

21 Melbourne RO



### Accredited assessor

**Name** Gary Wertheimer  
**Business name** GIW Environmental Solutions  
**Email** gary@giw.com.au  
**Phone** 0390445111  
**Accreditation No.** DMN/10/2024  
**Assessor Accrediting Organisation** Design Matters National  
**Declaration of interest** Declaration completed: no conflicts

### Thermal performance

#### Heating

**84.1**  
**MJ/m<sup>2</sup>**

#### Cooling

**12**  
**MJ/m<sup>2</sup>**

#### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

### Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting [www.FR5.com.au](http://www.FR5.com.au).

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State and territory variations and additions to the NCC may also apply.



## Certificate Check

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page?  
Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

### Provisional\* values

Have provisional values been used in the assessment and if so noted in "additional notes" below?

## Additional Notes

### Window and glazed door type and performance

#### Default\* windows

| Window ID         | Window description | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|-------------------|--------------------|------------------|-------|-------------------------------|------------------|
|                   |                    |                  |       | SHGC lower limit              | SHGC upper limit |
| No Data Available |                    |                  |       |                               |                  |

#### Custom\* windows

| Window ID    | Window description                              | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|--------------|-------------------------------------------------|------------------|-------|-------------------------------|------------------|
|              |                                                 |                  |       | SHGC lower limit              | SHGC upper limit |
| CAP-055-52 A | Capral 419 Flushline Fixed Window DG 6/12Ar/6EA | 2.71             | 0.58  | 0.55                          | 0.61             |
| CAP-057-13 A | Capral 900 Sliding Door DG 6EA/12Ar/6           | 3.19             | 0.48  | 0.46                          | 0.5              |
| CAP-051-06 A | Capral 35 Awning in 400 Frame DG 6EA/12Ar/6     | 4.42             | 0.41  | 0.39                          | 0.43             |

## Window and glazed door Schedule

| Location       | Window ID    | Window no. | Height (mm) | Width (mm) | Window type | Opening % | Orientation | Window shading device* |
|----------------|--------------|------------|-------------|------------|-------------|-----------|-------------|------------------------|
| Kitchen/Living | CAP-055-52 A | Opening 5  | 3000        | 1061       | fixed       | 0.0       | W           | No                     |
| Kitchen/Living | CAP-057-13 A | Opening 6  | 3000        | 2663       | sliding     | 45.0      | W           | No                     |

\* Refer to glossary.

|           |              |           |      |      |        |      |   |    |
|-----------|--------------|-----------|------|------|--------|------|---|----|
| Bedroom 2 | CAP-051-06 A | Opening 7 | 1900 | 1570 | awning | 30.0 | W | No |
| Bedroom 1 | CAP-051-06 A | Opening 8 | 3000 | 1424 | awning | 30.0 | W | No |

## Roof window type and performance value

### Default\* roof windows

| Window ID         | Window description | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|-------------------|--------------------|------------------|-------|-------------------------------|------------------|
|                   |                    |                  |       | SHGC lower limit              | SHGC upper limit |
| No Data Available |                    |                  |       |                               |                  |

### Custom\* roof windows

| Window ID         | Window description | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|-------------------|--------------------|------------------|-------|-------------------------------|------------------|
|                   |                    |                  |       | SHGC lower limit              | SHGC upper limit |
| No Data Available |                    |                  |       |                               |                  |

## Roof window schedule

| Location          | Window ID | Window no. | Opening % | Area (m²) | Orientation | Outdoor shade | Indoor shade |
|-------------------|-----------|------------|-----------|-----------|-------------|---------------|--------------|
| No Data Available |           |            |           |           |             |               |              |

## Skylight type and performance

| Skylight ID       | Skylight description |
|-------------------|----------------------|
| No Data Available |                      |

## Skylight schedule

| Location          | Skylight ID | Skylight No. | Skylight shaft length (mm) | Area (m²) | Orientation | Outdoor shade | Diffuser | Skylight shaft reflectance |
|-------------------|-------------|--------------|----------------------------|-----------|-------------|---------------|----------|----------------------------|
| No Data Available |             |              |                            |           |             |               |          |                            |

## External door schedule

| Location          | Height (mm) | Width (mm) | Opening % | Orientation |
|-------------------|-------------|------------|-----------|-------------|
| No Data Available |             |            |           |             |

## External wall type

| Wall ID | Wall type                                | Solar absorptance | Wall shade (colour) | Bulk insulation (R-value)                              | Reflective wall wrap* |
|---------|------------------------------------------|-------------------|---------------------|--------------------------------------------------------|-----------------------|
| 1       | 675 Victoria Street - Int. Wall          | 0.5               | Medium              | Glass fibre batt (k = 0.044 density = 12 kg/m3) (R1.8) | No                    |
| 2       | FR5 - Internal Plasterboard Stud Wall    | 0.5               | Medium              |                                                        | No                    |
| 3       | 675 Victoria Street - Ext. Concrete Wall | 0.5               | Medium              | Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.5) | No                    |

## External wall schedule

| Location | Wall ID | Height (mm) | Width (mm) | Orientation | Horizontal shading feature* maximum projection (mm) | Vertical shading feature (yes/no) |
|----------|---------|-------------|------------|-------------|-----------------------------------------------------|-----------------------------------|
|----------|---------|-------------|------------|-------------|-----------------------------------------------------|-----------------------------------|



|                |   |      |       |   |      |     |
|----------------|---|------|-------|---|------|-----|
| Kitchen/Living | 1 | 3000 | 11060 | S | 0    | No  |
| Kitchen/Living | 1 | 2400 | 1146  | E | 0    | No  |
| Kitchen/Living | 1 | 2400 | 697   | E | 0    | No  |
| Kitchen/Living | 2 | 2400 | 131   | N | 0    | Yes |
| Kitchen/Living | 3 | 3000 | 3925  | W | 2700 | Yes |
| Bedroom 2      | 3 | 3000 | 936   | S | 3952 | Yes |
| Bedroom 2      | 3 | 3000 | 1853  | W | 0    | Yes |
| Bedroom 1      | 3 | 3000 | 1661  | S | 0    | Yes |
| Bedroom 1      | 1 | 3000 | 7998  | N | 0    | No  |
| Bedroom 1      | 3 | 3000 | 2978  | W | 0    | No  |
| Ensuite        | 1 | 3000 | 2690  | E | 0    | No  |
| Bathroom       | 1 | 3000 | 2492  | E | 0    | No  |
| Bathroom       | 1 | 3000 | 2517  | N | 0    | No  |
| Ensuite        | 1 | 2400 | 1559  | E | 0    | No  |
| Ensuite        | 1 | 2400 | 2616  | N | 0    | No  |

## Internal wall type

| Wall ID | Wall type                             | Area (m <sup>2</sup> ) | Bulk insulation |
|---------|---------------------------------------|------------------------|-----------------|
| 1       | FR5 - Internal Plasterboard Stud Wall | 82                     |                 |

## Floor type

| Location       | Construction              | Area (m <sup>2</sup> ) | Sub-floor ventilation | Added insulation (R-value) | Covering |
|----------------|---------------------------|------------------------|-----------------------|----------------------------|----------|
| Kitchen/Living | FR5 - 200mm concrete slab | 44.1                   | Enclosed              | R0.0                       | Timber   |
| Bedroom 2      | FR5 - 200mm concrete slab | 14.3                   | Enclosed              | R0.0                       | Carpet   |
| Bedroom 1      | FR5 - 200mm concrete slab | 17.1                   | Enclosed              | R0.0                       | Carpet   |
| Ensuite        | FR5 - 200mm concrete slab | 4.5                    | Enclosed              | R0.0                       | Tiles    |
| Bathroom       | FR5 - 200mm concrete slab | 6.3                    | Enclosed              | R0.0                       | Tiles    |
| Ensuite        | FR5 - 200mm concrete slab | 4.1                    | Enclosed              | R0.0                       | Tiles    |

## Ceiling type

| Location          | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* |
|-------------------|----------------------------|--------------------------------------------------------|------------------|
| No Data Available |                            |                                                        |                  |

## Ceiling penetrations\*

| Location       | Quantity | Type         | Diameter (mm) | Sealed/unsealed |
|----------------|----------|--------------|---------------|-----------------|
| Kitchen/Living | 17       | Downlights   | 80            | Sealed          |
| Kitchen/Living | 1        | Exhaust Fans | 200           | Sealed          |
| Bedroom 2      | 6        | Downlights   | 80            | Sealed          |
| Bedroom 1      | 9        | Downlights   | 80            | Sealed          |
| Ensuite        | 2        | Downlights   | 80            | Sealed          |
| Ensuite        | 1        | Exhaust Fans | 200           | Sealed          |

|          |   |              |     |        |
|----------|---|--------------|-----|--------|
| Bathroom | 3 | Downlights   | 80  | Sealed |
| Bathroom | 1 | Exhaust Fans | 200 | Sealed |
| Ensuite  | 1 | Downlights   | 80  | Sealed |
| Ensuite  | 1 | Exhaust Fans | 200 | Sealed |

**Ceiling fans**

| Location          | Quantity | Diameter (mm) |
|-------------------|----------|---------------|
| No Data Available |          |               |

**Roof type**

| Construction                                                | Added insulation (R-value) | Solar absorptance | Roof shade |
|-------------------------------------------------------------|----------------------------|-------------------|------------|
| Slab:Slab - Suspended Slab : 200mm: 200mm<br>Suspended Slab | 0.0                        | 0.5               | Medium     |

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## Explanatory Notes

### About this report

A NatHERS rating is a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate an energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances or energy production of solar panels.

Ratings are based on a unique climate zone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. The actual energy consumption of a home may vary significantly from the predicted energy load, as the assumptions used in the rating will not match actual usage patterns. For example, the number of occupants and personal heating or cooling preferences will vary.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparing different dwelling designs and to demonstrate that the design meets the energy efficiency requirements in the National Construction Code. Homes that are energy efficient use less energy, are warmer on cool days, cooler on hot days and cost less to run. The higher the star rating the more thermally efficient the dwelling is.

### Accredited assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accredited Organisation (AAO).

Australian Capital Territory (ACT) licensed assessors may only produce assessments for regulatory purposes using software for which they have a licence endorsement. Licence endorsement is confirmed on the ACT licensing register

AAOs have specific quality assurance processes in place, and continuing professional development requirements, to maintain a high and consistent standard of assessments across the country.

Non-accredited assessors do not have this level of quality assurance or any ongoing training requirements.

Any questions or concerns about this report should be directed to the assessor in the first instance. If the assessor is unable to address these questions or concerns, the AAO specified on the front of this certificate should be contacted.

### Disclaimer

The format of the NatHERS Certificate was developed by the NatHERS Administrator. However the content of each individual certificate is entered and created by the assessor to create a NatHERS Certificate. It is the responsibility of the assessor who prepared this certificate to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce a NatHERS Certificate.

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

No assessment information that may have been made by the assessor while using the NatHERS accredited software tool are presented in this report and further details or data files may be available from the assessor.

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## Glossary

|                                      |                                                                                                                                                                                                                                                                                             |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Annual energy load</b>            | the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.                                                                                                                                                                                   |
| <b>Assessed floor area</b>           | the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.                                                                                                                            |
| <b>Ceiling penetrations</b>          | features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts. |
| <b>Conditioned</b>                   | a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.                                                                                                                            |
| <b>Custom windows</b>                | windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.                                                                                                                                                      |
| <b>Default windows</b>               | windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.                                                                                                                                                         |
| <b>Entrance door</b>                 | these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.                                                                                                                      |
| <b>Exposure category - exposed</b>   | terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).                                                                                                                                                              |
| <b>Exposure category - open</b>      | terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).                                                                       |
| <b>Exposure category - suburban</b>  | terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.                                                                                                                                                                       |
| <b>Exposure category - protected</b> | terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.                                                                                                                                                                                                |
| <b>Horizontal shading feature</b>    | provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.                                                                                                                                           |



|                                               |                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>National Construction Code (NCC) Class</b> | the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at <a href="http://www.abcb.gov.au">www.abcb.gov.au</a> .                                                                        |
| <b>Opening Percentage</b>                     | the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.                                                                                                                                                                                                                     |
| <b>Provisional value</b>                      | an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at <a href="http://www.nathers.gov.au">www.nathers.gov.au</a> |
| <b>Reflective wrap</b> (also known as foil)   | can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.                                                                                                                                                                                           |
| <b>Roof window</b>                            | for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.                                                                                                                                                     |
| <b>Shading device</b>                         | a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.                                                                                                                                                                                                                                       |
| <b>Shading features</b>                       | includes neighbouring buildings, fences, and wing walls, but excludes eaves.                                                                                                                                                                                                                                                             |
| <b>Solar heat gain coefficient (SHGC)</b>     | the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.                                                                          |
| <b>Skylight</b> (also known as roof lights)   | for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.                                                                                                                                                                                                               |
| <b>U-value</b>                                | the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.                                                                                                                                                                                                                                    |
| <b>Unconditioned</b>                          | a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.                                                                                                                                                                                                                     |
| <b>Vertical shading features</b>              | provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).                                                                    |

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# Nationwide House Energy Rating Scheme

## NatHERS Certificate

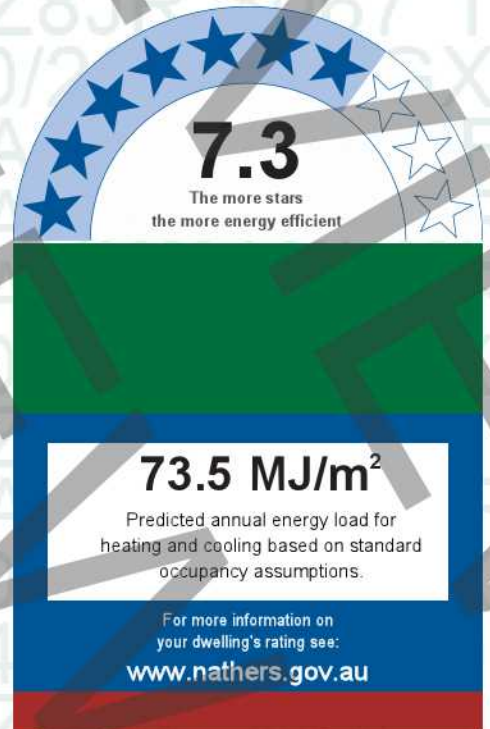
Generated on 7 Oct 2024 using FirstRate5: 5.3.2b (3.21)

### Property

**Address** 10.04, 675 Victoria Street, Abbotsford, VIC, 3067  
**Lot/DP** -  
**NCC Class\*** Class 2  
**Type** New Home

### Plans

**Main plan** -  
**Prepared by** -



### Construction and environment

**Assessed floor area (m²)\***  
Conditioned\* 212.4  
Unconditioned\* 3.6  
Total 216  
Garage -

#### Exposure type

exposed

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NatHERS climate zone  
21 Melbourne RO

### Thermal performance

#### Heating

56.8

MJ/m²

#### Cooling

16.7

MJ/m²

#### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

### Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting [www.FR5.com.au](http://www.FR5.com.au).



### Accredited assessor

**Name** Gary Wertheimer  
**Business name** GIW Environmental Solutions  
**Email** gary@giw.com.au  
**Phone** 0390445111  
**Accreditation No.** DMN/10/2024  
**Assessor Accrediting Organisation** Design Matters National  
**Declaration of interest** Declaration completed: no conflicts

### National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated houses are detailed in 3.12.0(a)(i) and 3.12.5 of the NCC Volume Two. For apartments the requirements are detailed in J0.2 and J5 to J8 of the NCC Volume One.

In NCC 2019, these requirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Requirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to: insulation installation methods, thermal breaks, building sealing, water heating and pumping, and artificial lighting requirements. The NCC and NatHERS Heating and Cooling Load Limits (Australian Building Codes Board Standard) are available at [www.abcb.gov.au](http://www.abcb.gov.au).

State and territory variations and additions to the NCC may also apply.



Certificate Check

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page?  
Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

Provisional\* values

Have provisional values been used in the assessment and if so noted in additional notes" below?

Additional Notes

Window and glazed door type and performance

Default\* windows

| Window ID         | Window description | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|-------------------|--------------------|------------------|-------|-------------------------------|------------------|
|                   |                    |                  |       | SHGC lower limit              | SHGC upper limit |
| No Data Available |                    |                  |       |                               |                  |

Custom\* windows

| Window ID     | Window description                                          | Maximum U-value* | SHGC* | Substitution tolerance ranges |                  |
|---------------|-------------------------------------------------------------|------------------|-------|-------------------------------|------------------|
|               |                                                             |                  |       | SHGC lower limit              | SHGC upper limit |
| CAP-055-109 A | Capral 419 Flushline Fixed Window DG 021_AGG MAX Clr 6_12_6 | 2.65             | 0.25  | 0.24                          | 0.26             |
| CAP-034-34 A  | Urban 582 Awning Window DG 015_AGG MAX Clr 6_8_4            | 3.32             | 0.23  | 0.22                          | 0.24             |
| CAP-127-32 A  | Capral : Urban 584 Sliding Door DG 015_AGG MAX Clr 6_8_4    | 2.79             | 0.24  | 0.23                          | 0.25             |

Window and glazed door Schedule

| Location | Window ID     | Window no. | Height (mm) | Width (mm) | Window type | Opening % | Orientation | Window shading device* |
|----------|---------------|------------|-------------|------------|-------------|-----------|-------------|------------------------|
| Study    | CAP-055-109 A | Opening 32 | 2550        | 1000       | fixed       | 0.0       | W           | No                     |

\* Refer to glossary.



|                  |               |            |      |      |         |      |   |    |
|------------------|---------------|------------|------|------|---------|------|---|----|
| Study            | CAP-034-34 A  | Opening 34 | 2550 | 990  | awning  | 60.0 | W | No |
| Kitchen/Living 2 | CAP-127-32 A  | Opening 45 | 2850 | 3000 | sliding | 45.0 | N | No |
| Kitchen/Living 2 | CAP-034-34 A  | Opening 46 | 2850 | 990  | awning  | 60.0 | N | No |
| Kitchen/Living 2 | CAP-055-109 A | Opening 43 | 2850 | 1031 | fixed   | 0.0  | N | No |
| Kitchen/Living 2 | CAP-034-34 A  | Opening 42 | 2850 | 727  | awning  | 60.0 | N | No |
| Kitchen/Living 2 | CAP-055-109 A | Opening 41 | 2850 | 3852 | fixed   | 0.0  | N | No |
| Kitchen/Living 2 | CAP-055-109 A | Opening 36 | 2850 | 1000 | fixed   | 0.0  | W | No |
| Kitchen/Living 2 | CAP-034-34 A  | Opening 37 | 2850 | 990  | awning  | 60.0 | W | No |
| Kitchen/Living 2 | CAP-127-32 A  | Opening 38 | 2850 | 3000 | sliding | 45.0 | W | No |
| Kitchen/Living 2 | CAP-034-34 A  | Opening 39 | 2850 | 990  | awning  | 60.0 | W | No |
| Kitchen/Living 2 | CAP-055-109 A | Opening 40 | 2850 | 726  | fixed   | 0.0  | W | No |
| Bedroom 1        | CAP-055-109 A | Opening 48 | 2550 | 1000 | fixed   | 0.0  | W | No |
| Bedroom 1        | CAP-034-34 A  | Opening 49 | 2550 | 990  | awning  | 60.0 | W | No |
| Bedroom 2        | CAP-055-109 A | Opening 50 | 2550 | 1000 | fixed   | 0.0  | W | No |
| Bedroom 2        | CAP-034-34 A  | Opening 51 | 2550 | 990  | awning  | 60.0 | W | No |
| Bedroom 3        | CAP-034-34 A  | Opening 54 | 2550 | 990  | awning  | 60.0 | W | No |
| Bedroom 3        | CAP-055-109 A | Opening 55 | 2550 | 1000 | fixed   | 0.0  | W | No |
| Living           | CAP-055-109 A | Opening 56 | 2850 | 1000 | fixed   | 0.0  | W | No |
| Living           | CAP-034-34 A  | Opening 57 | 2850 | 990  | awning  | 60.0 | W | No |
| Living           | CAP-055-109 A | Opening 58 | 2850 | 1000 | fixed   | 0.0  | W | No |

Roof window type and performance

Default\* roof windows

| Window ID         | Window description | Maximum  |       |                  |                  |
|-------------------|--------------------|----------|-------|------------------|------------------|
|                   |                    | U-value* | SHGC* | SHGC lower limit | SHGC upper limit |
| No Data Available |                    |          |       |                  |                  |

Custom\* roof windows

| Window ID         | Window description | Maximum U-value* | SHGC* | SHGC lower limit | SHGC upper limit |
|-------------------|--------------------|------------------|-------|------------------|------------------|
| No Data Available |                    |                  |       |                  |                  |

Roof window schedule

| Location          | Window ID | Window no. | Opening % | Area (m²) | Orientation | Outdoor shade | Indoor shade |
|-------------------|-----------|------------|-----------|-----------|-------------|---------------|--------------|
| No Data Available |           |            |           |           |             |               |              |

Skylight type and performance

| Skylight ID       | Skylight description |
|-------------------|----------------------|
| No Data Available |                      |

Skylight schedule

\* Refer to glossary.

| Location          | Skylight ID | Skylight No. | Skylight shaft length (mm) | Area (m²) | Orient-ation | Outdoor shade | Diffuser | Skylight shaft reflectance |
|-------------------|-------------|--------------|----------------------------|-----------|--------------|---------------|----------|----------------------------|
| No Data Available |             |              |                            |           |              |               |          |                            |

External door *schedule*

| Location          | Height (mm) | Width (mm) | Opening % | Orientation |
|-------------------|-------------|------------|-----------|-------------|
| No Data Available |             |            |           |             |

External wall *type*

| Wall ID | Wall type                                | Solar absorptance | Wall shade (colour) | Bulk insulation (R-value)                              | Reflective wall wrap* |
|---------|------------------------------------------|-------------------|---------------------|--------------------------------------------------------|-----------------------|
| 1       | 675 Victoria Street - Int. Wall          | 0.5               | Medium              | Glass fibre batt (k = 0.044 density = 12 kg/m3) (R1.8) | No                    |
| 2       | 675 Victoria Street - Ext. Concrete Wall | 0.5               | Medium              | Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.5) | No                    |

External wall *schedule*

| Location         | Wall ID | Height (mm) | Width (mm) | Orientation | Horizontal shading feature* maximum projection (mm) | Vertical shading feature (yes/no) |
|------------------|---------|-------------|------------|-------------|-----------------------------------------------------|-----------------------------------|
| Study            | 1       | 2550        | 2945       | S           | 0                                                   | No                                |
| Study            | 1       | 2550        | 2928       | W           | 0                                                   | Yes                               |
| Kitchen/Living 2 | 2       | 2850        | 589        | E           | 0                                                   | No                                |
| Kitchen/Living 2 | 2       | 2850        | 521        | N           | 0                                                   | Yes                               |
| Kitchen/Living 2 | 2       | 2850        | 944        | NNW         | 0                                                   | Yes                               |
| Kitchen/Living 2 | 2       | 2850        | 1055       | N           | 0                                                   | Yes                               |
| Kitchen/Living 2 | 2       | 2850        | 749        | N           | 0                                                   | Yes                               |
| Kitchen/Living 2 | 2       | 2850        | 3912       | N           | 0                                                   | Yes                               |
| Kitchen/Living 2 | 2       | 2850        | 7326       | W           | 0                                                   | Yes                               |
| Cellar           | 1       | 2550        | 1661       | S           | 0                                                   | No                                |
| Pantry           | 1       | 2550        | 1854       | S           | 0                                                   | No                                |
| Pantry           | 1       | 2550        | 2964       | E           | 0                                                   | No                                |
| Entrance hall    | 1       | 2550        | 4660       | S           | 0                                                   | No                                |
| Entrance hall    | 1       | 2550        | 2416       | E           | 0                                                   | No                                |
| Bedroom 1        | 1       | 2550        | 4918       | S           | 0                                                   | No                                |
| Bedroom 1        | 2       | 2550        | 2901       | W           | 0                                                   | No                                |
| Bedroom 2        | 2       | 2550        | 3014       | W           | 0                                                   | No                                |
| WIR 1            | 1       | 2550        | 2727       | E           | 0                                                   | No                                |
| WIR 1            | 1       | 2550        | 2298       | S           | 0                                                   | No                                |
| Bedroom 3        | 2       | 2550        | 3028       | W           | 0                                                   | No                                |
| Ensuite 1        | 1       | 2550        | 2321       | S           | 0                                                   | No                                |
| Ensuite 1        | 1       | 2550        | 4679       | E           | 0                                                   | No                                |
| Hall             | 1       | 2550        | 3767       | N           | 0                                                   | No                                |
| Laundry          | 1       | 2550        | 2753       | E           | 0                                                   | No                                |

\* Refer to glossary.



|         |   |      |      |   |   |    |
|---------|---|------|------|---|---|----|
| Laundry | 1 | 2550 | 2346 | N | 0 | No |
| Living  | 1 | 2850 | 1543 | E | 0 | No |
| Living  | 1 | 2850 | 3358 | N | 0 | No |
| Living  | 2 | 2850 | 3652 | W | 0 | No |
| Stairs  | 1 | 2550 | 3869 | S | 0 | No |
| Stairs  | 1 | 2550 | 1043 | E | 0 | No |
| Stairs  | 1 | 2550 | 3869 | N | 0 | No |

## Internal wall type

| Wall ID | Wall type                             | Area (m²) | Bulk insulation |
|---------|---------------------------------------|-----------|-----------------|
| 1       | FR5 - Internal Plasterboard Stud Wall | 186       |                 |

## Floor type

| Location         | Construction              | Area (m²) | Sub-floor ventilation | Added insulation (R-value) | Covering |
|------------------|---------------------------|-----------|-----------------------|----------------------------|----------|
| Study            | FR5 - 250mm concrete slab | 5.3       | Enclosed              | R0.0                       | Timber   |
| Study            | FR5 - 250mm concrete slab | 3.3       | Enclosed              | R0.0                       | Timber   |
| Kitchen/Living 2 | FR5 - 250mm concrete slab | 85        | Enclosed              | R0.0                       | Timber   |
| Cellar           | FR5 - 250mm concrete slab | 3         | Enclosed              | R0.0                       | Timber   |
| Cellar           | FR5 - 250mm concrete slab | 1.8       | Enclosed              | R0.0                       | Timber   |
| Powder           | FR5 - 250mm concrete slab | 3.6       | Enclosed              | R0.0                       | Tiles    |
| Pantry           | FR5 - 250mm concrete slab | 7         | Enclosed              | R0.0                       | Timber   |
| Entrance hall    | FR5 - 250mm concrete slab | 6.9       | Enclosed              | R0.0                       | Timber   |
| Entrance hall    | FR5 - 250mm concrete slab | 2.5       | Enclosed              | R0.0                       | Timber   |
| Bedroom 1        | FR5 - 250mm concrete slab | 14.3      | Enclosed              | R0.0                       | Carpet   |
| Bedroom 2        | FR5 - 250mm concrete slab | 12.9      | Enclosed              | R0.0                       | Carpet   |
| Ensuite 2        | FR5 - 250mm concrete slab | 3.7       | Enclosed              | R0.0                       | Tiles    |
| WIR 1            | FR5 - 250mm concrete slab | 8.5       | Enclosed              | R0.0                       | Carpet   |
| Bedroom 3        | FR5 - 250mm concrete slab | 13        | Enclosed              | R0.0                       | Carpet   |
| Ensuite 2        | FR5 - 250mm concrete slab | 3.6       | Enclosed              | R0.0                       | Tiles    |
| Ensuite 1        | FR5 - 250mm concrete slab | 10.3      | Enclosed              | R0.0                       | Tiles    |
| Hall             | FR5 - 250mm concrete slab | 11.8      | Enclosed              | R0.0                       | Timber   |
| Laundry          | FR5 - 250mm concrete slab | 6.5       | Enclosed              | R0.0                       | Tiles    |
| Living           | FR5 - 250mm concrete slab | 3.8       | Enclosed              | R0.0                       | Timber   |
| Living           | FR5 - 250mm concrete slab | 8.5       | Enclosed              | R0.0                       | Timber   |
| Stairs           | FR5 - 250mm concrete slab | 4.1       | Enclosed              | R0.0                       | Timber   |

## Ceiling type

| Location      | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* |
|---------------|----------------------------|--------------------------------------------------------|------------------|
| Study         | FR5 - 250mm concrete slab  | R0.0                                                   | No               |
| Cellar        | FR5 - 250mm concrete slab  | R0.0                                                   | No               |
| Entrance hall | FR5 - 250mm concrete slab  | R0.0                                                   | No               |



|           |              |      |    |
|-----------|--------------|------|----|
| Bedroom 1 | Plasterboard | R4.6 | No |
| Bedroom 2 | Plasterboard | R4.6 | No |
| Ensuite 2 | Plasterboard | R4.6 | No |
| WIR 1     | Plasterboard | R4.6 | No |
| Bedroom 3 | Plasterboard | R4.6 | No |
| Ensuite 2 | Plasterboard | R4.6 | No |
| Ensuite 1 | Plasterboard | R4.6 | No |
| Hall      | Plasterboard | R4.6 | No |
| Laundry   | Plasterboard | R4.6 | No |
| Living    | Plasterboard | R4.6 | No |
| Living    | Plasterboard | R4.6 | No |
| Stairs    | Plasterboard | R4.6 | No |

### Ceiling penetrations\*

| Location         | Quantity | Type         | Diameter (mm) | Sealed/unsealed |
|------------------|----------|--------------|---------------|-----------------|
| Study            | 3        | Downlights   | 80            | Sealed          |
| Kitchen/Living 2 | 1        | Exhaust Fans | 200           | Sealed          |
| Kitchen/Living 2 | 32       | Downlights   | 80            | Sealed          |
| Cellar           | 2        | Downlights   | 80            | Sealed          |
| Powder           | 1        | Exhaust Fans | 200           | Sealed          |
| Powder           | 2        | Downlights   | 80            | Sealed          |
| Pantry           | 2        | Downlights   | 80            | Sealed          |
| Entrance hall    | 2        | Downlights   | 80            | Sealed          |
| Bedroom 1        | 6        | Downlights   | 80            | Sealed          |
| Bedroom 2        | 5        | Downlights   | 80            | Sealed          |
| Ensuite 2        | 1        | Exhaust Fans | 200           | Sealed          |
| Ensuite 2        | 2        | Downlights   | 80            | Sealed          |
| WIR 1            | 3        | Downlights   | 80            | Sealed          |
| Bedroom 3        | 5        | Downlights   | 80            | Sealed          |
| Ensuite 2        | 1        | Exhaust Fans | 200           | Sealed          |
| Ensuite 2        | 2        | Downlights   | 80            | Sealed          |
| Ensuite 1        | 1        | Exhaust Fans | 200           | Sealed          |
| Ensuite 1        | 4        | Downlights   | 80            | Sealed          |
| Hall             | 5        | Downlights   | 80            | Sealed          |
| Laundry          | 1        | Exhaust Fans | 200           | Sealed          |
| Laundry          | 2        | Downlights   | 80            | Sealed          |
| Living           | 5        | Downlights   | 80            | Sealed          |
| Stairs           | 2        | Downlights   | 80            | Sealed          |

### Ceiling fans

| Location          | Quantity | Diameter (mm) |
|-------------------|----------|---------------|
| No Data Available |          |               |

Roof type

| Construction                                                | Added insulation (R-value) | Solar absorptance | Roof shade |
|-------------------------------------------------------------|----------------------------|-------------------|------------|
| Slab:Slab - Suspended Slab : 250mm: 250mm<br>Suspended Slab | 0.0                        | 0.5               | Medium     |

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Explanatory Notes

About this report

A NatHERS rating is a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate an energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances or energy production of solar panels.

Ratings are based on a unique climate zone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. The actual energy consumption of a home may vary significantly from the predicted energy load, as the assumptions used in the rating will not match actual usage patterns. For example, the number of occupants and personal heating or cooling preferences will vary.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparing different dwelling designs and to demonstrate that the design meets the energy efficiency requirements in the National Construction Code. Homes that are energy efficient use less energy, are warmer on cool days, cooler on hot days and cost less to run. The higher the star rating the more thermally efficient the dwelling is.

Accredited assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accredited Organisation (AAO).

Australian Capital Territory (ACT) licensed assessors may only produce assessments for regulatory purposes using software for which they have a licence endorsement. Licence endorsement must be confirmed on the ACT licensing register

Glossary

|                               |                                                                                                                                                                                                                                                                                             |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Annual energy load            | the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.                                                                                                                                                                                   |
| Assessed floor area           | the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.                                                                                                                            |
| Ceiling penetrations          | features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts. |
| Conditioned                   | a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.                                                                                                                            |
| Custom windows                | windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.                                                                                                                                                      |
| Default windows               | windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.                                                                                                                                                         |
| Entrance door                 | these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.                                                                                                                      |
| Exposure category - exposed   | terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).                                                                                                                                                              |
| Exposure category - open      | terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).                                                                       |
| Exposure category - suburban  | terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.                                                                                                                                                                       |
| Exposure category - protected | terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.                                                                                                                                                                                                |
| Horizontal shading feature    | provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.                                                                                                                                           |

AAOs have specific quality assurance processes in place, and continuing professional development requirements, to maintain a high and consistent standard of assessments across the country. Non-accredited assessors do not have this level of quality assurance or any ongoing training requirements.

Any questions or concerns about this report should be directed to the assessor in the first instance. If the assessor is unable to address these questions or concerns, the AAO specified on the front of this certificate should be contacted.

Disclaimer

The format of the NatHERS Certificate was developed by the NatHERS Administrator. However the content of each individual certificate is entered and created by the assessor to create a NatHERS Certificate. It is the responsibility of the assessor who prepared this certificate to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce a NatHERS Certificate.

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings are likely to perform when used in a similar way. Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

No assessment or information that may have been made by the assessor while using the NatHERS accredited software tool are presented in this report and further details or data files may be available from the assessor.

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\* Refer to glossary.



|                                               |                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>National Construction Code (NCC) Class</b> | the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at <a href="http://www.abcb.gov.au">www.abcb.gov.au</a> .                                                                        |
| <b>Opening Percentage</b>                     | the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.                                                                                                                                                                                                                     |
| <b>Provisional value</b>                      | an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at <a href="http://www.nathers.gov.au">www.nathers.gov.au</a> |
| <b>Reflective wrap</b> (also known as foil)   | can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.                                                                                                                                                                                           |
| <b>Roof window</b>                            | for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.                                                                                                                                                     |
| <b>Shading device</b>                         | a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.                                                                                                                                                                                                                                       |
| <b>Shading features</b>                       | includes neighbouring buildings, fences, and wing walls, but excludes eaves.                                                                                                                                                                                                                                                             |
| <b>Solar heat gain coefficient (SHGC)</b>     | the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.                                                                          |
| <b>Skylight</b> (also known as roof lights)   | for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.                                                                                                                                                                                                               |
| <b>U-value</b>                                | the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.                                                                                                                                                                                                                                    |
| <b>Unconditioned</b>                          | a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.                                                                                                                                                                                                                     |
| <b>Vertical shading features</b>              | provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).                                                                    |

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## Appendix C: Renewable Energy

### Inputs Solar PV

|                        |            |
|------------------------|------------|
| Peak Wattage of System | 30.0 kWp   |
| Azimuth                | 0 degrees  |
| Inclination            | 10 degrees |

### Outputs Solar PV

|                               |                           |
|-------------------------------|---------------------------|
| Electricity Produced per Year | 40,204 kWh                |
| No. Panels Required           | 75                        |
| Total Roof Area Required      | 179 sqm                   |
| Annual Carbon Savings         | 45,029 kg CO <sub>2</sub> |

### Economic Output

|                |           |
|----------------|-----------|
| Cost of System | 45,000 \$ |
| Annual Savings | 8,041 \$  |
| Simple Payback | 6 Years   |

### Annual Common Area Demand

|                                             |                  |
|---------------------------------------------|------------------|
| Annual Demand Class 2 Non-Residential Area: | 85,821 kWh/year  |
| Annual Demand Carpark / Services            | 151,972 kWh/year |
| Total Annual Demand                         | 237,793 kWh/year |

### Demand / Supply

|                                              |     |
|----------------------------------------------|-----|
| Contribution Solar PV to Communal Area Power | 17% |
|----------------------------------------------|-----|

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## Appendix D: Daylight Modelling

### Scope of Modelling

We have undertaken daylight modelling for 675 Victoria Street, Abbotsford assessing both living and bedroom areas for a sample of apartments. 15 apartments have been selected with consideration of internal layout, inherent and adjacent building shading features and in response to the Council RFI dated: 17/07/2023. These apartments reflect a worst-case scenario with all other units anticipated to achieve the BESS performance requirements.

The development has been modelled with the adjacent existing developments in place:

- 661 Victoria Street South: existing building (due to restricted development potential adjacent to heritage building)
- 661 Victoria Street North: existing heritage building
- 677 Victoria Street: existing Acacia Place apartment building

### Methodology

The daylight levels in apartments are benchmarked against the best practice requirements as set out under the Built Environment Sustainability Scorecard (BESS) tool: Indoor Environment Quality (IEQ) – Daylight Access Living Areas and Bedrooms. These levels are as follows:

*"Dwellings should achieve the following daylight factors (DF)*

- *80% of the total number of living rooms achieve a daylight factor greater than 1% to 90% of the floor area of each living area, including kitchens.*
- *80% of the total number of bedrooms achieve a daylight factor greater than 0.5% to 90% of the floor area in each room."*

The daylight modelling has been completed using the Radiance software suite, an accurate computing program used to predict light levels in a space prior to construction. Scene geometric data and material properties are interfaced into the Radiance software using DesignBuilder.

Daylight Factor has been calculated using a CIE uniform cloudy sky.

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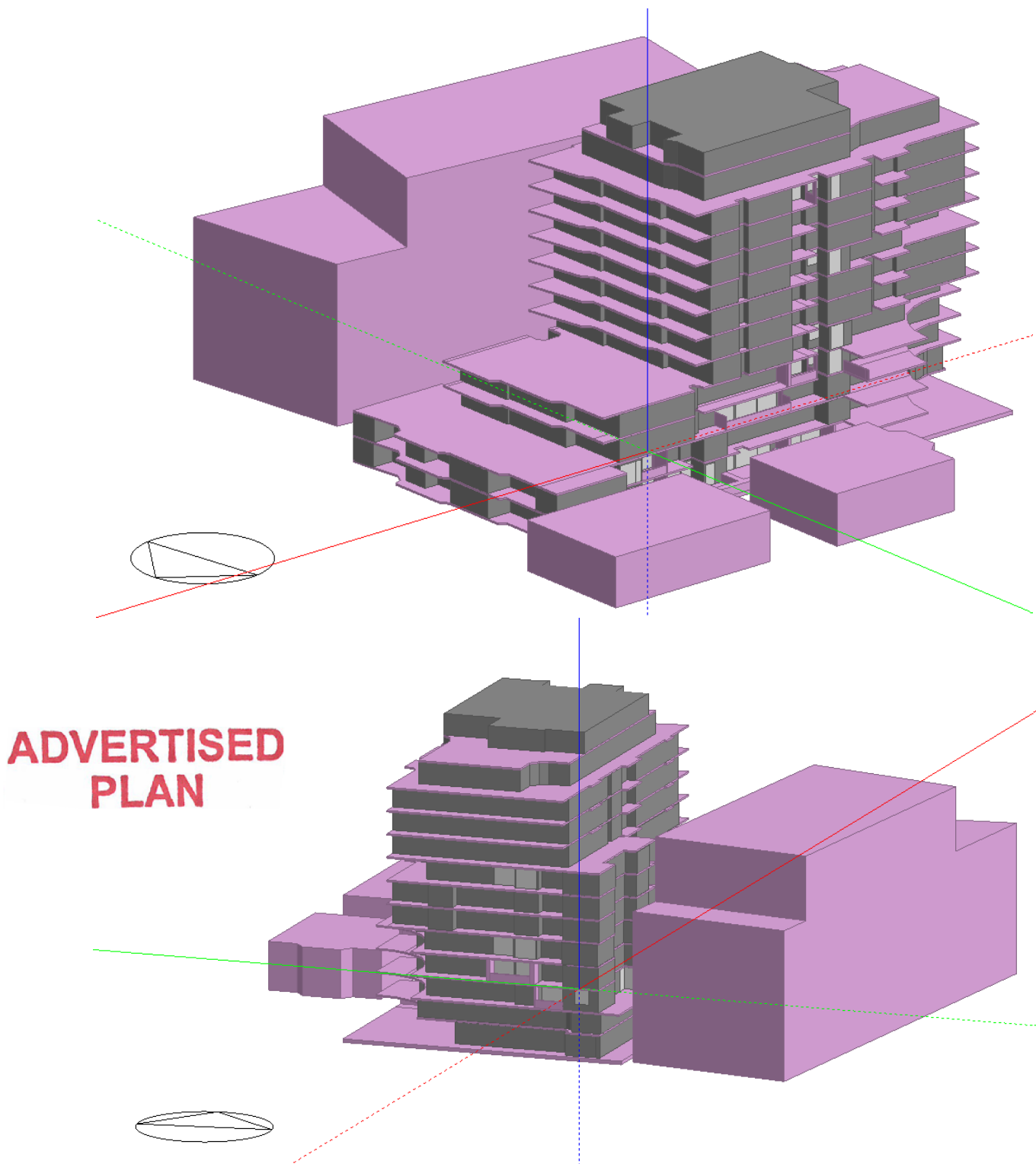


Figure 8 – DesignBuilder model of the proposed development and adjacent existing buildings.

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## Modelling Assumptions

The following assumptions have been made with respect to the modelling:

- Modelled window dimensions and shading structures are as depicted on the Architectural drawings.
- The glazing performance used for external windows is as follows:
  - Windows: double glazed, low-e, clear window with a total system VLT of 0.61.
- The reflectance of all materials is in accordance with the below:
  - Floors: 0.5
  - Internal Walls: 0.8
  - Ceilings: 0.8
- Transient and unoccupied spaces such as corridors and wardrobes have been excluded from the modelled area.
- The reflectance of external buildings is assumed to be 0.4 and external structures are assumed to be 0.6.

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### Daylight Results – Numerical

The daylight results for living areas of 675 Victoria Street, Abbotsford can be summarised as follows:

| Area        | Floor Area (m2) | Floor Area above DF1 (m2) | % of floor area above DF1 | Status        |
|-------------|-----------------|---------------------------|---------------------------|---------------|
| G.01 Living | 28.9            | 20.5                      | 70.9                      | Non-compliant |
| G.02 Living | 30.7            | 16.1                      | 52.4                      | Non-compliant |
| G.03 Living | 30.9            | 30.4                      | 98.5                      | Compliant     |
| G.04 Living | 29.5            | 27.8                      | 94.4                      | Compliant     |
| G.09 Living | 27.7            | 13.0                      | 46.9                      | Non-compliant |
| UG06 Living | 30.7            | 29.3                      | 95.3                      | Compliant     |
| UG10 Living | 29.0            | 7.3                       | 25.0                      | Non-compliant |
| 1.01 Living | 32.4            | 29.9                      | 92.2                      | Compliant     |
| 1.06 Living | 27.6            | 25.7                      | 93.0                      | Compliant     |
| 1.11 Living | 28.2            | 7.7                       | 27.2                      | Non-compliant |
| 1.12 Living | 30.1            | 18.9                      | 63.0                      | Non-compliant |
| 2.02 Living | 24.3            | 24.2                      | 99.4                      | Compliant     |
| 2.05 Living | 30.2            | 29.6                      | 97.9                      | Compliant     |
| 2.11 Living | 28.0            | 11.6                      | 41.5                      | Non-compliant |
| 3.09 Living | 28.5            | 9.4                       | 32.9                      | Non-compliant |
| 9.04 Living | 28.46           | 28.27                     | 99.33                     | Compliant     |

The daylight results for bedrooms of 675 Victoria Street, Abbotsford can be summarised as follows:

| Area           | Floor Area (m2) | Floor Area above DF0.5 (m2) | % of floor area above DF0.5 | Status        |
|----------------|-----------------|-----------------------------|-----------------------------|---------------|
| G.01 Bedroom 1 | 11.2            | 11.2                        | 100.0                       | Compliant     |
| G.02 Bedroom 1 | 13.5            | 13.3                        | 98.4                        | Compliant     |
| G.02 Bedroom 2 | 8.7             | 8.7                         | 100.0                       | Compliant     |
| G.03 Bedroom 1 | 10.5            | 10.5                        | 100.0                       | Compliant     |
| G.03 Bedroom 2 | 13.2            | 13.2                        | 100.0                       | Compliant     |
| G.04 Bedroom 1 | 14.6            | 7.9                         | 54.2                        | Non-compliant |
| G.04 Bedroom 2 | 9.7             | 9.7                         | 100.0                       | Compliant     |
| G.09 Bedroom 1 | 13.3            | 8.8                         | 66.0                        | Non-compliant |



| Area            | Floor Area<br>(m2) | Floor Area<br>above DF0.5<br>(m2) | % of floor area<br>above DF0.5 | Status        |
|-----------------|--------------------|-----------------------------------|--------------------------------|---------------|
| G.09 Bedroom 2  | 10.5               | 10.5                              | 100.0                          | Compliant     |
| UG.06 Bedroom 1 | 9.9                | 9.9                               | 100.0                          | Compliant     |
| UG.06 Bedroom 2 | 14.7               | 10.6                              | 72.4                           | Non-compliant |
| UG.10 Bedroom 1 | 9.0                | 9.0                               | 100.0                          | Compliant     |
| UG.10 Bedroom 2 | 14.6               | 14.1                              | 96.2                           | Compliant     |
| 1.01 Bedroom 1  | 13.4               | 13.4                              | 100.0                          | Compliant     |
| 1.01 Bedroom 2  | 8.9                | 1.7                               | 19.6                           | Non-compliant |
| 1.01 Bedroom 3  | 8.4                | 8.4                               | 100.0                          | Compliant     |
| 1.06 Bedroom 1  | 14.5               | 14.5                              | 100.0                          | Compliant     |
| 1.06 Bedroom 2  | 9.3                | 9.3                               | 100.0                          | Compliant     |
| 1.11 Bedroom 1  | 12.6               | 1.1                               | 8.8                            | Non-compliant |
| 1.12 Bedroom 1  | 9.9                | 9.7                               | 97.8                           | Compliant     |
| 1.12 Bedroom 2  | 8.7                | 8.7                               | 100.0                          | Compliant     |
| 2.02 Bedroom 1  | 9.3                | 9.3                               | 100.0                          | Compliant     |
| 2.05 Bedroom 1  | 10.5               | 10.5                              | 100.0                          | Compliant     |
| 2.05 Bedroom 2  | 11.1               | 11.1                              | 99.9                           | Compliant     |
| 2.11 Bedroom 1  | 10.5               | 10.5                              | 100.0                          | Compliant     |
| 3.09 Bedroom 1  | 13.6               | 1.7                               | 12.8                           | Non-compliant |
| 9.04 Bedroom 1  | 12.36              | 12.34                             | 99.84                          | Compliant     |
| 9.04 Bedroom 2  | 10.88              | 10.84                             | 99.63                          | Compliant     |

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## Daylight Results – Visual



Figure 9 - Daylight Map – Ground Floor

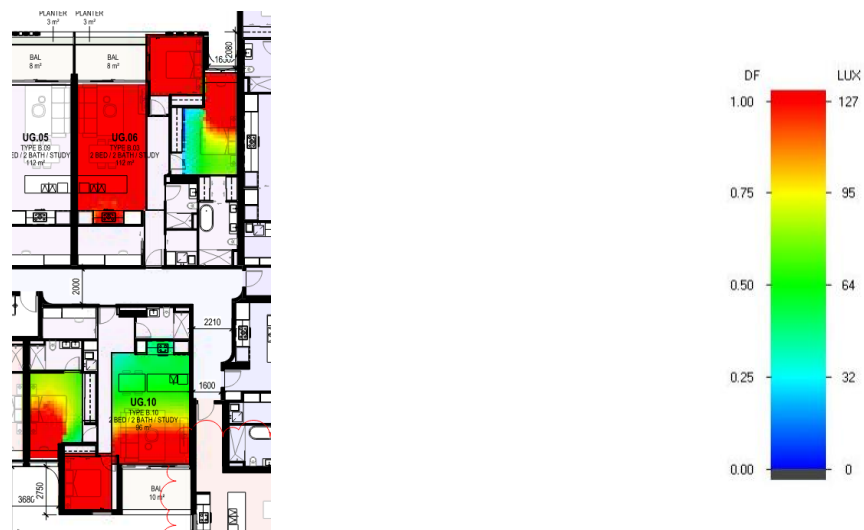


Figure 10 - Daylight Map – Upper Ground Floor

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Figure 11 - Daylight Map – Level 1

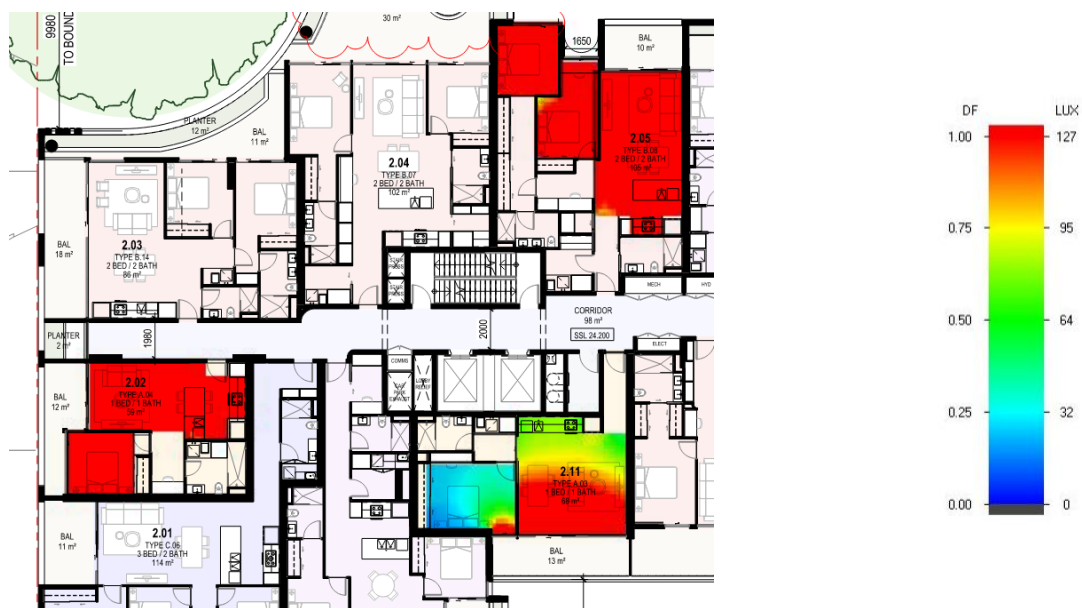


Figure 12 - Daylight Map – Level 2

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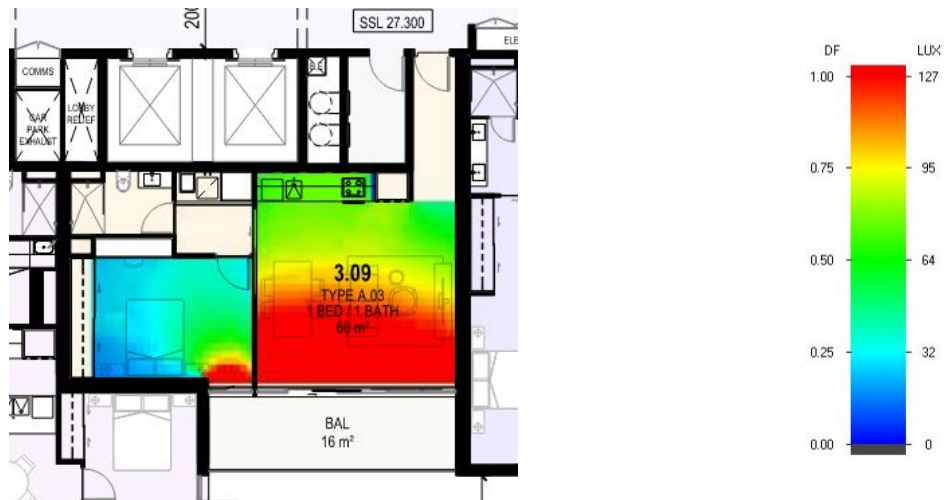


Figure 13 - Daylight Map – Level 3



Figure 14 - Daylight Map – Level 9

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### Overall Building Results

| Apartment No. | Total Living Areas | Living Areas Compliant | Total Bedrooms | Bedrooms Compliant |
|---------------|--------------------|------------------------|----------------|--------------------|
| G.01          | 1                  | 0                      | 1              | 1                  |
| G.02          | 1                  | 0                      | 2              | 2                  |
| G.03          | 1                  | 1                      | 2              | 2                  |
| G.04          | 1                  | 1                      | 2              | 1                  |
| G.05          | 1                  | 1                      | 3              | 2                  |
| G.06          | 1                  | 1                      | 3              | 2                  |
| G.07          | 1                  | 1                      | 2              | 1                  |
| G.08          | 1                  | 0                      | 2              | 1                  |
| G.09          | 1                  | 0                      | 2              | 1                  |
| G.10          | 1                  | 0                      | 2              | 2                  |
| UG.01         | 1                  | 0                      | 1              | 1                  |
| UG.02         | 1                  | 0                      | 2              | 2                  |
| UG.03         | 1                  | 0                      | 2              | 0                  |
| UG.04         | 1                  | 0                      | 2              | 2                  |
| UG.05         | 1                  | 0                      | 2              | 1                  |
| UG.06         | 1                  | 1                      | 2              | 1                  |
| UG.07         | 1                  | 1                      | 3              | 2                  |
| UG.08         | 1                  | 1                      | 3              | 2                  |
| UG.09         | 1                  | 1                      | 2              | 1                  |
| UG.10         | 1                  | 0                      | 2              | 1                  |
| UG.11         | 1                  | 0                      | 2              | 1                  |
| UG.12         | 1                  | 0                      | 2              | 2                  |
| UG.13         | 1                  | 0                      | 1              | 0                  |
| 1.01          | 1                  | 1                      | 3              | 2                  |
| 1.02          | 1                  | 1                      | 1              | 1                  |
| 1.03          | 1                  | 1                      | 2              | 0                  |
| 1.04          | 1                  | 0                      | 2              | 2                  |
| 1.05          | 1                  | 1                      | 2              | 0                  |
| 1.06          | 1                  | 1                      | 2              | 2                  |
| 1.07          | 1                  | 1                      | 3              | 1                  |

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| Apartment No. | Total Living Areas | Living Areas Compliant | Total Bedrooms | Bedrooms Compliant |
|---------------|--------------------|------------------------|----------------|--------------------|
| 1.08          | 1                  | 1                      | 2              | 2                  |
| 1.09          | 1                  | 1                      | 3              | 2                  |
| 1.10          | 1                  | 0                      | 2              | 1                  |
| 1.11          | 1                  | 0                      | 1              | 0                  |
| 1.12          | 1                  | 0                      | 2              | 2                  |
| 2.01          | 1                  | 1                      | 3              | 2                  |
| 2.02          | 1                  | 1                      | 1              | 1                  |
| 2.03          | 1                  | 1                      | 2              | 2                  |
| 2.04          | 1                  | 0                      | 2              | 2                  |
| 2.05          | 1                  | 1                      | 2              | 2                  |
| 2.06          | 1                  | 1                      | 2              | 2                  |
| 2.07          | 1                  | 1                      | 3              | 1                  |
| 2.08          | 1                  | 1                      | 2              | 2                  |
| 2.09          | 1                  | 1                      | 3              | 2                  |
| 2.10          | 1                  | 0                      | 2              | 1                  |
| 2.11          | 1                  | 0                      | 1              | 0                  |
| 2.12          | 1                  | 0                      | 2              | 2                  |
| 3.01          | 1                  | 1                      | 3              | 2                  |
| 3.02          | 1                  | 1                      | 1              | 1                  |
| 3.03          | 1                  | 1                      | 2              | 2                  |
| 3.04          | 1                  | 1                      | 2              | 2                  |
| 3.05          | 1                  | 1                      | 2              | 2                  |
| 3.06          | 1                  | 1                      | 3              | 3                  |
| 3.07          | 1                  | 1                      | 2              | 2                  |
| 3.08          | 1                  | 1                      | 3              | 2                  |
| 3.09          | 1                  | 0                      | 1              | 0                  |
| 3.10          | 1                  | 1                      | 2              | 2                  |
| 4.01          | 1                  | 1                      | 3              | 2                  |
| 4.02          | 1                  | 1                      | 1              | 1                  |
| 4.03          | 1                  | 1                      | 1              | 1                  |
| 4.04          | 1                  | 1                      | 2              | 2                  |

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| Apartment No. | Total Living Areas | Living Areas Compliant | Total Bedrooms | Bedrooms Compliant |
|---------------|--------------------|------------------------|----------------|--------------------|
| 4.05          | 1                  | 1                      | 2              | 2                  |
| 4.06          | 1                  | 1                      | 2              | 2                  |
| 4.07          | 1                  | 1                      | 3              | 3                  |
| 4.08          | 1                  | 1                      | 2              | 2                  |
| 4.09          | 1                  | 1                      | 3              | 3                  |
| 4.10          | 1                  | 0                      | 1              | 0                  |
| 4.11          | 1                  | 1                      | 2              | 2                  |
| 5.01          | 1                  | 1                      | 3              | 2                  |
| 5.02          | 1                  | 1                      | 1              | 1                  |
| 5.03          | 1                  | 1                      | 1              | 1                  |
| 5.04          | 1                  | 1                      | 2              | 2                  |
| 5.05          | 1                  | 1                      | 2              | 2                  |
| 5.06          | 1                  | 1                      | 2              | 2                  |
| 5.07          | 1                  | 1                      | 3              | 3                  |
| 5.08          | 1                  | 1                      | 2              | 2                  |
| 5.09          | 1                  | 1                      | 3              | 3                  |
| 5.10          | 1                  | 0                      | 1              | 0                  |
| 5.11          | 1                  | 1                      | 2              | 2                  |
| 6.01          | 1                  | 1                      | 3              | 2                  |
| 6.02          | 1                  | 1                      | 1              | 1                  |
| 6.03          | 1                  | 1                      | 1              | 1                  |
| 6.04          | 1                  | 1                      | 2              | 2                  |
| 6.05          | 1                  | 1                      | 2              | 2                  |
| 6.06          | 1                  | 1                      | 2              | 2                  |
| 6.07          | 1                  | 1                      | 3              | 3                  |
| 6.08          | 1                  | 1                      | 2              | 2                  |
| 6.09          | 1                  | 1                      | 3              | 3                  |
| 6.10          | 1                  | 1                      | 1              | 0                  |
| 6.11          | 1                  | 1                      | 2              | 2                  |
| 7.01          | 1                  | 1                      | 2              | 2                  |
| 7.02          | 1                  | 1                      | 3              | 3                  |

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| Apartment No. | Total Living Areas | Living Areas Compliant | Total Bedrooms | Bedrooms Compliant |
|---------------|--------------------|------------------------|----------------|--------------------|
| 7.03          | 1                  | 1                      | 2              | 2                  |
| 7.04          | 1                  | 1                      | 2              | 2                  |
| 7.05          | 1                  | 1                      | 3              | 3                  |
| 7.06          | 1                  | 1                      | 2              | 2                  |
| 7.07          | 1                  | 1                      | 3              | 3                  |
| 7.08          | 1                  | 1                      | 2              | 1                  |
| 7.09          | 1                  | 0                      | 1              | 1                  |
| 8.01          | 1                  | 1                      | 2              | 2                  |
| 8.02          | 1                  | 1                      | 3              | 3                  |
| 8.03          | 1                  | 1                      | 2              | 2                  |
| 8.04          | 1                  | 1                      | 2              | 2                  |
| 8.05          | 1                  | 1                      | 3              | 3                  |
| 8.06          | 1                  | 1                      | 2              | 2                  |
| 8.07          | 1                  | 1                      | 3              | 3                  |
| 8.08          | 1                  | 1                      | 2              | 2                  |
| 8.09          | 1                  | 1                      | 1              | 1                  |
| 9.01          | 1                  | 1                      | 2              | 2                  |
| 9.02          | 1                  | 1                      | 3              | 3                  |
| 9.03          | 1                  | 1                      | 2              | 2                  |
| 9.04          | 1                  | 1                      | 2              | 2                  |
| 9.05          | 1                  | 1                      | 3              | 3                  |
| 9.06          | 1                  | 1                      | 2              | 2                  |
| 9.07          | 1                  | 1                      | 3              | 3                  |
| 9.08          | 1                  | 1                      | 2              | 2                  |
| 9.09          | 1                  | 1                      | 1              | 1                  |
| 10.01         | 1                  | 1                      | 2              | 2                  |
| 10.02         | 1                  | 1                      | 2              | 2                  |
| 10.03         | 2                  | 2                      | 3              | 3                  |
| 10.04         | 2                  | 2                      | 3              | 3                  |
| 10.05         | 2                  | 2                      | 3              | 3                  |
| 10.06         | 2                  | 2                      | 3              | 3                  |

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| Apartment No. | Total Living Areas | Living Areas Compliant | Total Bedrooms | Bedrooms Compliant |
|---------------|--------------------|------------------------|----------------|--------------------|
| TOTAL         | 127                | 103                    | 260            | 218                |
| Percentage    | 81%                |                        | 84%            |                    |

## Conclusion

The development has been assessed and it has been determined that 81% of living areas and 84% of bedrooms will achieve the daylight factors as prescribed under BESS and therefore the development will meet the BESS IEQ guidelines for daylight.

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## Appendix E: Preliminary Façade Calculation

### J1.5 Façade Calculator

|                         |                 |
|-------------------------|-----------------|
| Address                 | 675 Victoria St |
| Climate Zone            | 6               |
| Building Classification | Class 6         |
| Level                   | Ground          |

|                  | North | East  | South | West | Internal |
|------------------|-------|-------|-------|------|----------|
| Façade area (m2) | 46.1  | 155.7 | 123.4 | 37.1 | 226.5    |

Number of Rows 6

| Window No.            | Orientation | Dimensions |           | Area (m2) | Shading (m) |     |
|-----------------------|-------------|------------|-----------|-----------|-------------|-----|
|                       |             | Height (m) | Width (m) |           | P           | H   |
| Courtyard Window      | North       | 3.2        | 10.2      | 32.64     | 0           | 3.2 |
| Courtyard Window Shar | North       | 3.2        | 4.2       | 13.44     | 2.1         | 3.2 |
| W01                   | South       | 6.1        | 3.6       | 21.96     | 1           | 6.6 |
| W02                   | West        | 6.1        | 0.5       | 3.05      | 18          | 6.6 |
| W03                   | West        | 6.1        | 2         | 12.2      | 2.8         | 6.6 |
| W04                   | South       | 6.1        | 1.5       | 9.15      | 2.8         | 6.6 |
| W05                   | South       | 6.1        | 2.1       | 12.81     | 2.8         | 6.6 |
| W06                   | South       | 6.1        | 2.1       | 12.81     | 2.8         | 6.6 |
| W07                   | South       | 6.6        | 2.1       | 13.86     | 2.9         | 6.6 |
| W08                   | South       | 6.1        | 1         | 6.1       | 2.8         | 6.6 |

#### RESULTS

| Method 1 | U-Value | SHGC | Min. Wall R-values |
|----------|---------|------|--------------------|
| North    | 2.00    | 0.15 | 1                  |
| East     | 7.50    | 0.87 | 1.4                |
| South    | 2.61    | 0.25 | 1                  |
| West     | 3.43    | 0.47 | 1                  |
| Internal | 7.50    |      | 1.4                |

| Method 2 | U-Value | SHGC |
|----------|---------|------|
|          | 6.06    | 0.23 |

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## Appendix F: BESS Assessment

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# BESS Report

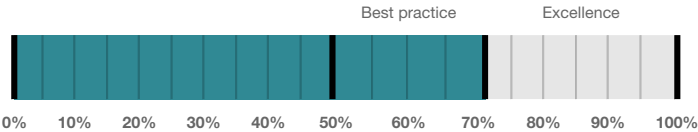
Built Environment Sustainability Scorecard



This BESS report outlines the sustainable design commitments of the proposed development at 675 Victoria St Abbotsford Victoria 3067. The BESS report and accompanying documents and evidence are submitted in response to the requirement for a Sustainable Design Assessment or Sustainability Management Plan at Yarra City Council.

Note that where a Sustainability Management Plan is required, the BESS report must be accompanied by a report that further demonstrates the development's potential to achieve the relevant environmental performance outcomes and documents the means by which the performance outcomes can be achieved.

### Your BESS Score



71%

### Project details

|                     |                                                 |
|---------------------|-------------------------------------------------|
| Name                | 675 Victoria St, Abbotsford VIC 3067, Australia |
| Address             | 675 Victoria St, Abbotsford VIC 3067, Australia |
| Project ID          | BE40F95D-R5                                     |
| BESS Version        | BESS-6                                          |
| Site type           | Mixed use development                           |
| Account             | info@giw.com.au                                 |
| Application no.     |                                                 |
| Site area           | 3,459 m <sup>2</sup>                            |
| Building floor area | 13,806 m <sup>2</sup>                           |
| Date                | 07 April 2025                                   |
| Software version    | 2.1.0-B.596                                     |

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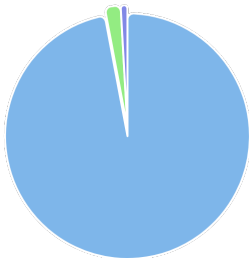


### Performance by category

● This project ● Maximum available

| Category      | Weight | Score | Pass |
|---------------|--------|-------|------|
| Management    | 5%     | 62%   | ●    |
| Water         | 9%     | 57%   | ✓    |
| Energy        | 28%    | 72%   | ✓    |
| Stormwater    | 14%    | 100%  | ✓    |
| IEQ           | 17%    | 66%   | ✓    |
| Transport     | 9%     | 88%   | ●    |
| Waste         | 6%     | 66%   | ●    |
| Urban Ecology | 6%     | 66%   | ●    |
| Innovation    | 9%     | 40%   | ●    |

### Project composition



● Apartment ● Office ● Other building



Buildings

| Name            | Height | Footprint | % of total footprint |
|-----------------|--------|-----------|----------------------|
| 675 Victoria St | 14     | 21,031 m² | 100%                 |

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Dwellings & Non Res Spaces

Dwellings

| Name                                                                   | Quantity | Area    | Building        | % of total area |
|------------------------------------------------------------------------|----------|---------|-----------------|-----------------|
| Apartment                                                              |          |         |                 |                 |
| 3.05, 4.05-4.06, 5.05-5.06, 6.05-6.06, 7.03-7.04, 8.03-8.04, 9.03-9.04 | 13       | 104 m²  | 675 Victoria St | 9%              |
| 3.08, 4.09, 5.09, 6.09, 7.07, 8.07, 9.07                               | 7        | 167 m²  | 675 Victoria St | 8%              |
| 3.06, 4.07, 5.07, 6.07, 7.05, 8.05, 9.05                               | 7        | 124 m²  | 675 Victoria St | 6%              |
| 3.07, 4.08, 5.08, 6.08, 7.06, 8.06, 9.06                               | 7        | 98.0 m² | 675 Victoria St | 4%              |
| 3.01, 4.01, 5.01, 6.01                                                 | 4        | 114 m²  | 675 Victoria St | 3%              |
| G.03-G.04, UG.05-UG.06                                                 | 4        | 112 m²  | 675 Victoria St | 3%              |
| G.02, UG.04, 1.06, 2.06                                                | 4        | 111 m²  | 675 Victoria St | 3%              |
| 1.09, 2.09                                                             | 2        | 197 m²  | 675 Victoria St | 2%              |
| 1.07, 2.07                                                             | 2        | 177 m²  | 675 Victoria St | 2%              |
| 3.10, 4.11, 5.11, 6.11                                                 | 4        | 105 m²  | 675 Victoria St | 2%              |
| 3.02, 4.02, 4.03, 5.02, 5.03, 6.02, 6.03                               | 7        | 105 m²  | 675 Victoria St | 2%              |
| UG.03, 1.05, 2.05                                                      | 3        | 105 m²  | 675 Victoria St | 2%              |
| UG.02, 1.04, 2.04                                                      | 3        | 105 m²  | 675 Victoria St | 2%              |
| G.10, UG.12, 1.10, 2.10                                                | 4        | 93.0 m² | 675 Victoria St | 2%              |
| G.08-G.09, UG.10-UG.11                                                 | 4        | 96.0 m² | 675 Victoria St | 2%              |
| G.05, UG.07                                                            | 2        | 168 m²  | 675 Victoria St | 2%              |
| 1.08, 2.08                                                             | 2        | 99.0 m² | 675 Victoria St | 1%              |
| 10.05                                                                  | 1        | 213 m²  | 675 Victoria St | 1%              |
| 10.04                                                                  | 1        | 255 m²  | 675 Victoria St | 1%              |
| 10.03                                                                  | 1        | 246 m²  | 675 Victoria St | 1%              |
| 8.08, 9.08                                                             | 2        | 89.0 m² | 675 Victoria St | 1%              |
| 8.02, 9.02                                                             | 2        | 112 m²  | 675 Victoria St | 1%              |
| 8.01, 9.01                                                             | 2        | 76.0 m² | 675 Victoria St | 1%              |
| 4.04, 5.04, 6.04                                                       | 3        | 87.0 m² | 675 Victoria St | 1%              |
| 3.09, 4.10, 5.10, 6.10                                                 | 4        | 67.0 m² | 675 Victoria St | 1%              |
| 1.12, 2.12                                                             | 2        | 103 m²  | 675 Victoria St | 1%              |
| 10.06                                                                  | 1        | 243 m²  | 675 Victoria St | 1%              |
| 1.03, 2.03                                                             | 2        | 86.0 m² | 675 Victoria St | 1%              |
| 1.01, 2.01                                                             | 2        | 114 m²  | 675 Victoria St | 1%              |
| UG.13, 1.11, 2.11                                                      | 3        | 66.0 m² | 675 Victoria St | 1%              |
| G.07, UG.09                                                            | 2        | 121 m²  | 675 Victoria St | 1%              |
| G.06, UG.08                                                            | 2        | 120 m²  | 675 Victoria St | 1%              |
| 10.02                                                                  | 1        | 107 m²  | 675 Victoria St | < 1%            |
| 10.01                                                                  | 1        | 98.0 m² | 675 Victoria St | < 1%            |
| 8.09, 9.09                                                             | 2        | 69.0 m² | 675 Victoria St | < 1%            |
| 7.09                                                                   | 1        | 78.0 m² | 675 Victoria St | < 1%            |
| 7.08                                                                   | 1        | 88.0 m² | 675 Victoria St | < 1%            |

|              |            |                             |                 |      |
|--------------|------------|-----------------------------|-----------------|------|
| 7.02         | 1          | 133 m <sup>2</sup>          | 675 Victoria St | < 1% |
| 7.01         | 1          | 87.0 m <sup>2</sup>         | 675 Victoria St | < 1% |
| 3.04         | 1          | 102 m <sup>2</sup>          | 675 Victoria St | < 1% |
| 3.03         | 1          | 86.0 m <sup>2</sup>         | 675 Victoria St | < 1% |
| 1.02, 2.02   | 2          | 58.0 m <sup>2</sup>         | 675 Victoria St | < 1% |
| UG.01        | 1          | 70.0 m <sup>2</sup>         | 675 Victoria St | < 1% |
| G.01         | 1          | 74.0 m <sup>2</sup>         | 675 Victoria St | < 1% |
| <b>Total</b> | <b>123</b> | <b>13,394 m<sup>2</sup></b> | <b>97%</b>      |      |

## Non-Res Spaces

| Name                  | Quantity | Area                     | Building        | % of total area |
|-----------------------|----------|--------------------------|-----------------|-----------------|
| <b>Office</b>         |          |                          |                 |                 |
| Commercial            | 1        | 287 m <sup>2</sup>       | 675 Victoria St | 2%              |
| <b>Total</b>          | <b>1</b> | <b>287 m<sup>2</sup></b> | <b>2%</b>       |                 |
| <b>Other building</b> |          |                          |                 |                 |
| Community Facility    | 1        | 125 m <sup>2</sup>       | 675 Victoria St | < 1%            |
| <b>Total</b>          | <b>1</b> | <b>125 m<sup>2</sup></b> | <b>&lt; 1%</b>  |                 |

## Supporting Evidence

### Shown on Floor Plans

| Credit            | Requirement                                                                                                                      | Response | Status |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------|----------|--------|
| Management 3.1    | Individual utility meters annotated                                                                                              |          | -      |
| Management 3.2    | Individual utility meters annotated                                                                                              |          | -      |
| Management 3.3    | Common area submeters annotated                                                                                                  |          | -      |
| Water 3.1         | Water efficient garden annotated                                                                                                 |          | -      |
| Energy 3.1        | Carpark with natural ventilation or CO monitoring system                                                                         |          | -      |
| Energy 4.2        | Floor plans showing location of photovoltaic panels as described.                                                                |          | -      |
| Stormwater 1.1    | Location of any stormwater management systems used in STORM or MUSIC modelling (e.g. Rainwater tanks, raingarden, buffer strips) |          | -      |
| IEQ 1.1           | If using BESS daylight calculator, references to floorplans and elevations showing window sizes and sky angles.                  |          | -      |
| IEQ 1.2           | If using BESS daylight calculator, references to floorplans and elevations showing window sizes and sky angles.                  |          | -      |
| IEQ 1.5           | Floor plans with compliant bedrooms marked                                                                                       |          | -      |
| IEQ 2.1           | Dwellings meeting the requirements for being 'naturally ventilated'                                                              |          | -      |
| Transport 1.1     | All nominated residential bicycle parking spaces                                                                                 |          | -      |
| Transport 1.2     | All nominated residential visitor bicycle parking spaces                                                                         |          | -      |
| Transport 1.3     | Residential bicycle parking spaces at ground level                                                                               |          | -      |
| Transport 1.4     | All nominated non-residential bicycle parking spaces                                                                             |          | -      |
| Transport 1.5     | All nominated non-residential visitor bicycle parking spaces                                                                     |          | -      |
| Transport 2.1     | Location of electric vehicle charging infrastructure                                                                             |          | -      |
| Transport 2.3     | All nominated motorbicycle parking spaces                                                                                        |          | -      |
| Waste 2.1         | Location of food and garden waste facilities                                                                                     |          | -      |
| Waste 2.2         | Location of recycling facilities                                                                                                 |          | -      |
| Urban Ecology 1.1 | Size and location of communal spaces                                                                                             |          | -      |
| Urban Ecology 2.1 | Vegetated areas                                                                                                                  |          | -      |
| Urban Ecology 2.4 | Taps and floor waste on balconies / courtyards                                                                                   |          | -      |

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Supporting Documentation

| Credit          | Requirement                                                                                                                                                                                                                                                                                                                                         | Response | Status |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------|
| Management 2.2  | Preliminary NatHERS assessments                                                                                                                                                                                                                                                                                                                     |          | -      |
| Management 2.3a | Section J glazing assessment                                                                                                                                                                                                                                                                                                                        |          | -      |
| Energy 1.1      | Energy Report showing calculations of reference case and proposed buildings                                                                                                                                                                                                                                                                         |          | -      |
| Energy 3.1      | Provide a written explanation of either the fully natural carpark ventilation or carbon monoxide monitoring, describing how these systems will work, what systems are required for them to be fully integrated and who will be responsible for their implementation throughout the design, procurement and operational phases of the building life. |          | -      |
| Energy 3.6      | Provide a written description of the average lighting power density to be installed in the development and specify the lighting type(s) to be used.                                                                                                                                                                                                 |          | -      |
| Energy 3.7      | Provide a written description of the average lighting power density to be installed in the development and specify the lighting type(s) to be used.                                                                                                                                                                                                 |          | -      |
| Energy 4.2      | Specifications of the solar photovoltaic system(s).                                                                                                                                                                                                                                                                                                 |          | -      |
| Stormwater 1.1  | STORM report or MUSIC model                                                                                                                                                                                                                                                                                                                         |          | -      |
| IEQ 1.1         | If using an alternative daylight modelling program, a short report detailing assumptions used and results achieved.                                                                                                                                                                                                                                 |          | -      |
| IEQ 1.2         | If using an alternative daylight modelling program, a short report detailing assumptions used and results achieved.                                                                                                                                                                                                                                 |          | -      |
| IEQ 1.4         | A short report detailing assumptions used and results achieved.                                                                                                                                                                                                                                                                                     |          | -      |
| IEQ 1.5         | A list of compliant bedrooms                                                                                                                                                                                                                                                                                                                        |          | -      |
| IEQ 2.1         | A list of naturally ventilated bedrooms                                                                                                                                                                                                                                                                                                             |          | -      |

Credit summary

|                                                                |      |      |
|----------------------------------------------------------------|------|------|
| Management Overall contribution                                | 4.5% |      |
| 1.1 Pre-Application Meeting                                    |      | 0%   |
| 2.2 Thermal Performance Modelling - Multi-Dwelling Residential |      | 100% |
| 2.3 Thermal Performance Modelling - Non-Residential            |      | 34%  |
| 3.1 Metering - Residential                                     |      | 100% |
| 3.2 Metering - Non-Residential                                 |      | 100% |
| 3.3 Metering - Common Areas                                    |      | 100% |
| 4.1 Building Users Guide                                       |      | 100% |

Water Overall contribution 9.0%

|                                          |                      |      |        |
|------------------------------------------|----------------------|------|--------|
|                                          | Minimum required 50% | 57%  | ✓ Pass |
| 1.1 Potable water use reduction          |                      | 40%  |        |
| 3.1 Water Efficient Landscaping          |                      | 100% |        |
| 4.1 Building Systems Water Use Reduction |                      | 100% |        |



Energy Overall contribution 27.5%

|                                                            |  | Minimum required 50% | 72%                                                 | ✔ Pass       |
|------------------------------------------------------------|--|----------------------|-----------------------------------------------------|--------------|
| 1.1 Thermal Performance Rating - Non-Residential           |  |                      | 12%                                                 |              |
| 1.2 Thermal Performance Rating - Residential               |  |                      | 66%                                                 |              |
| 2.1 Greenhouse Gas Emissions                               |  |                      | 100%                                                |              |
| 2.2 Peak Demand                                            |  |                      | 0%                                                  |              |
| 2.3 Electricity Consumption                                |  |                      | 100%                                                |              |
| 2.4 Gas Consumption                                        |  |                      | N/A                                                 | ✦ Scoped Out |
|                                                            |  |                      | No gas connection in use                            |              |
| 3.1 Carpark Ventilation                                    |  |                      | 100%                                                |              |
| 3.2 Hot Water                                              |  |                      | 100%                                                |              |
| 3.4 Clothes Drying                                         |  |                      | 0%                                                  |              |
| 3.6 Internal Lighting - Residential Multiple Dwellings     |  |                      | 100%                                                |              |
| 3.7 Internal Lighting - Non-Residential                    |  |                      | 100%                                                |              |
| 4.1 Combined Heat and Power (cogeneration / trigeneration) |  |                      | N/A                                                 | ✦ Scoped Out |
|                                                            |  |                      | No cogeneration or trigeneration system in use.     |              |
| 4.2 Renewable Energy Systems - Solar                       |  |                      | 97%                                                 |              |
| 4.4 Renewable Energy Systems - Other                       |  |                      | 0%                                                  | ⊘ Disabled   |
|                                                            |  |                      | No other (non-solar PV) renewable energy is in use. |              |

Stormwater Overall contribution 3.5%

|                          |  | Minimum required 100% | 100% | ✔ Pass |
|--------------------------|--|-----------------------|------|--------|
| 1.1 Stormwater Treatment |  |                       | 100% |        |

IEQ Overall contribution 16.5%

|                                                      |  | Minimum required 50% | 66%  | ✔ Pass     |
|------------------------------------------------------|--|----------------------|------|------------|
| 1.1 Daylight Access - Living Areas                   |  |                      | 66%  |            |
| 1.2 Daylight Access - Bedrooms                       |  |                      | 66%  |            |
| 1.3 Winter Sunlight                                  |  |                      | 0%   |            |
| 1.4 Daylight Access - Non-Residential                |  |                      | 60%  | ✔ Achieved |
| 1.5 Daylight Access - Minimal Internal Bedrooms      |  |                      | 100% |            |
| 2.1 Effective Natural Ventilation                    |  |                      | 66%  |            |
| 2.3 Ventilation - Non-Residential                    |  |                      | 34%  | ✔ Achieved |
| 3.4 Thermal comfort - Shading - Non-residential      |  |                      | 86%  |            |
| 3.5 Thermal Comfort - Ceiling Fans - Non-Residential |  |                      | 0%   |            |
| 4.1 Air Quality - Non-Residential                    |  |                      | 100% |            |

Transport Overall contribution 9.0%

|                                               |  |      |
|-----------------------------------------------|--|------|
|                                               |  | 88%  |
| 1.1 Bicycle Parking - Residential             |  | 100% |
| 1.2 Bicycle Parking - Residential Visitor     |  | 100% |
| 1.3 Bicycle Parking - Convenience Residential |  | 100% |
| 1.4 Bicycle Parking - Non-Residential         |  | 100% |
| 1.5 Bicycle Parking - Non-Residential Visitor |  | 100% |
| 1.6 End of Trip Facilities - Non-Residential  |  | 0%   |
| 2.1 Electric Vehicle Infrastructure           |  | 100% |
| 2.2 Car Share Scheme                          |  | 0%   |
| 2.3 Motorbikes / Mopeds                       |  | 100% |

Waste Overall contribution 5.5%

|                                                |  |      |
|------------------------------------------------|--|------|
|                                                |  | 66%  |
| 1.1 - Construction Waste - Building Re-Use     |  | 0%   |
| 2.1 - Operational Waste - Food & Garden Waste  |  | 100% |
| 2.2 - Operational Waste - Convenience Shopping |  | 100% |

Urban Ecology Overall contribution 5.5%

|                                                      |  |      |
|------------------------------------------------------|--|------|
|                                                      |  | 66%  |
| 1.1 Communal Spaces                                  |  | 97%  |
| 2.1 Vegetation                                       |  | 100% |
| 2.2 Green Roofs                                      |  | 0%   |
| 2.3 Green Walls and Facades                          |  | 0%   |
| 2.4 Private Open Space - Balcony / Courtyard Ecology |  | 100% |
| 3.1 Food Production - Residential                    |  | 0%   |
| 3.2 Food Production - Non-Residential                |  | 0%   |

Innovation Overall contribution 9.0%

|                |  |     |
|----------------|--|-----|
|                |  | 40% |
| 1.1 Innovation |  | 40% |

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Credit breakdown

Management Overall contribution 4.5%

|  |  |     |
|--|--|-----|
|  |  | 62% |
|--|--|-----|

|                             |  |    |
|-----------------------------|--|----|
| 1.1 Pre-Application Meeting |  | 0% |
|-----------------------------|--|----|

|                    |                                                                                                                                                                                                    |  |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Score Contribution | This credit contributes 37.5% towards the category score.                                                                                                                                          |  |
| Criteria           | Has an ESD professional been engaged to provide sustainability advice from schematic design to construction? AND Has the ESD professional been involved in a pre-application meeting with Council? |  |
| Question           | Criteria Achieved ?                                                                                                                                                                                |  |
| Project            | No                                                                                                                                                                                                 |  |

|                                                                |  |      |
|----------------------------------------------------------------|--|------|
| 2.2 Thermal Performance Modelling - Multi-Dwelling Residential |  | 100% |
|----------------------------------------------------------------|--|------|

|                    |                                                                                      |  |
|--------------------|--------------------------------------------------------------------------------------|--|
| Score Contribution | This credit contributes 24.3% towards the category score.                            |  |
| Criteria           | Have preliminary NatHERS ratings been undertaken for all thermally unique dwellings? |  |
| Question           | Criteria Achieved ?                                                                  |  |
| Apartment          | Yes                                                                                  |  |

|                                                     |  |     |
|-----------------------------------------------------|--|-----|
| 2.3 Thermal Performance Modelling - Non-Residential |  | 34% |
|-----------------------------------------------------|--|-----|

|                    |                                                                                              |  |
|--------------------|----------------------------------------------------------------------------------------------|--|
| Score Contribution | This credit contributes 34.3% towards the category score.                                    |  |
| Criteria           | Has a preliminary facade assessment been undertaken in accordance with NCC2019 Section J1.5? |  |
| Question           | Criteria Achieved ?                                                                          |  |
| Office             | Yes                                                                                          |  |
| Other building     | No                                                                                           |  |

|                |                                                                                                                                  |  |
|----------------|----------------------------------------------------------------------------------------------------------------------------------|--|
| Criteria       | Has preliminary modelling been undertaken in accordance with either NCC2019 Section J (Energy Efficiency), NABERS or Green Star? |  |
| Question       | Criteria Achieved ?                                                                                                              |  |
| Office         | No                                                                                                                               |  |
| Other building | No                                                                                                                               |  |

|                            |  |      |
|----------------------------|--|------|
| 3.1 Metering - Residential |  | 100% |
|----------------------------|--|------|

|                    |                                                                 |  |
|--------------------|-----------------------------------------------------------------|--|
| Score Contribution | This credit contributes 12.1% towards the category score.       |  |
| Criteria           | Have utility meters been provided for all individual dwellings? |  |
| Question           | Criteria Achieved ?                                             |  |
| Apartment          | Yes                                                             |  |

|                                |  |      |
|--------------------------------|--|------|
| 3.2 Metering - Non-Residential |  | 100% |
|--------------------------------|--|------|

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|                                    |                                                                          |
|------------------------------------|--------------------------------------------------------------------------|
| Score Contribution                 | This credit contributes 0.4% towards the category score.                 |
| Criteria                           | Have utility meters been provided for all individual commercial tenants? |
| Question                           | Criteria Achieved ?                                                      |
| Office                             | Yes                                                                      |
| Other building                     | Yes                                                                      |
| <b>3.3 Metering - Common Areas</b> | <b>100%</b>                                                              |
| Score Contribution                 | This credit contributes 12.5% towards the category score.                |
| Criteria                           | Have all major common area services been separately submetered?          |
| Question                           | Criteria Achieved ?                                                      |
| Apartment                          | Yes                                                                      |
| Office                             | Yes                                                                      |
| Other building                     | Yes                                                                      |
| <b>4.1 Building Users Guide</b>    | <b>100%</b>                                                              |
| Score Contribution                 | This credit contributes 12.5% towards the category score.                |
| Criteria                           | Will a building users guide be produced and issued to occupants?         |
| Question                           | Criteria Achieved ?                                                      |
| Project                            | Yes                                                                      |

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Water Overall contribution 9.0%

|  |  |                      |     |        |
|--|--|----------------------|-----|--------|
|  |  | Minimum required 50% | 57% | ✔ Pass |
|--|--|----------------------|-----|--------|

|                                                                             |                                    |
|-----------------------------------------------------------------------------|------------------------------------|
| Water Approach                                                              |                                    |
| What approach do you want to use for Water?:                                | Use the built in calculation tools |
| Do you have a reticulated third pipe or an on-site water recycling system?: | No                                 |
| Are you installing a swimming pool?:                                        | No                                 |
| Are you installing a rainwater tank?:                                       | Yes                                |
| Fixtures, fittings & connections profile                                    |                                    |

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| Showerhead:                                                            |                                 |
|------------------------------------------------------------------------|---------------------------------|
| G.01                                                                   | 4 Star WELS (>= 6.0 but <= 7.5) |
| G.02, UG.04, 1.06, 2.06                                                |                                 |
| G.03-G.04, UG.05-UG.06                                                 |                                 |
| G.05, UG.07                                                            |                                 |
| G.06, UG.08                                                            |                                 |
| G.07, UG.09                                                            |                                 |
| G.08-G.09, UG.10-UG.11                                                 |                                 |
| G.10, UG.12, 1.10, 2.10                                                |                                 |
| UG.13, 1.11, 2.11                                                      |                                 |
| UG.01                                                                  |                                 |
| UG.02, 1.04, 2.04                                                      |                                 |
| UG.03, 1.05, 2.05                                                      |                                 |
| 1.01, 2.01                                                             |                                 |
| 1.02, 2.02                                                             |                                 |
| 1.03, 2.03                                                             |                                 |
| 10.06                                                                  |                                 |
| 3.06, 4.07, 5.07, 6.07, 7.05, 8.05, 9.05                               |                                 |
| 3.02, 4.02, 4.03, 5.02, 5.03, 6.02, 6.03                               |                                 |
| 1.12, 2.12                                                             |                                 |
| 3.01, 4.01, 5.01, 6.01                                                 |                                 |
| 3.03                                                                   |                                 |
| 3.04                                                                   |                                 |
| 3.05, 4.05-4.06, 5.05-5.06, 6.05-6.06, 7.03-7.04, 8.03-8.04, 9.03-9.04 |                                 |
| 3.07, 4.08, 5.08, 6.08, 7.06, 8.06, 9.06                               |                                 |
| 3.08, 4.09, 5.09, 6.09, 7.07, 8.07, 9.07                               |                                 |
| 3.09, 4.10, 5.10, 6.10                                                 |                                 |
| 3.10, 4.11, 5.11, 6.11                                                 |                                 |
| 4.04, 5.04, 6.04                                                       |                                 |
| 7.01                                                                   |                                 |
| 8.01, 9.01                                                             |                                 |
| 7.02                                                                   |                                 |
| 8.02, 9.02                                                             |                                 |
| 7.08                                                                   |                                 |
| 7.09                                                                   |                                 |
| 8.08, 9.08                                                             |                                 |
| 8.09, 9.09                                                             |                                 |
| 10.01                                                                  |                                 |
| 10.02                                                                  |                                 |
| 10.03                                                                  |                                 |
| 10.04                                                                  |                                 |
| 10.05                                                                  |                                 |
| 1.07, 2.07                                                             |                                 |
| 1.08, 2.08                                                             |                                 |
| 1.09, 2.09                                                             |                                 |
| Commercial                                                             | Scope out                       |
| Community Facility                                                     |                                 |
| Bath: All                                                              | Scope out                       |
| Kitchen Taps: All                                                      | >= 6 Star WELS rating           |
| Bathroom Taps: All                                                     | >= 6 Star WELS rating           |
| Dishwashers: All                                                       | >= 5 Star WELS rating           |

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|                                                                        |                       |
|------------------------------------------------------------------------|-----------------------|
| WC: All                                                                | >= 4 Star WELS rating |
| Urinals: All                                                           | Scope out             |
| Washing Machine Water Efficiency:                                      |                       |
| G.01                                                                   | Occupant to Install   |
| G.02, UG.04, 1.06, 2.06                                                |                       |
| G.03-G.04, UG.05-UG.06                                                 |                       |
| G.05, UG.07                                                            |                       |
| G.06, UG.08                                                            |                       |
| G.07, UG.09                                                            |                       |
| G.08-G.09, UG.10-UG.11                                                 |                       |
| G.10, UG.12, 1.10, 2.10                                                |                       |
| UG.13, 1.11, 2.11                                                      |                       |
| UG.01                                                                  |                       |
| UG.02, 1.04, 2.04                                                      |                       |
| UG.03, 1.05, 2.05                                                      |                       |
| 1.01, 2.01                                                             |                       |
| 1.02, 2.02                                                             |                       |
| 1.03, 2.03                                                             |                       |
| 10.06                                                                  |                       |
| 3.06, 4.07, 5.07, 6.07, 7.05, 8.05, 9.05                               |                       |
| 3.02, 4.02, 4.03, 5.02, 5.03, 6.02, 6.03                               |                       |
| 1.12, 2.12                                                             |                       |
| 3.01, 4.01, 5.01, 6.01                                                 |                       |
| 3.03                                                                   |                       |
| 3.04                                                                   |                       |
| 3.05, 4.05-4.06, 5.05-5.06, 6.05-6.06, 7.05-7.06, 8.05-8.06, 9.03-9.04 |                       |
| 3.07, 4.08, 5.08, 6.08, 7.06, 8.06, 9.07                               |                       |
| 3.08, 4.09, 5.09, 6.09, 7.07, 8.07, 9.07                               |                       |
| 3.09, 4.10, 5.10, 6.10                                                 |                       |
| 3.10, 4.11, 5.11, 6.11                                                 |                       |
| 4.04, 5.04, 6.04                                                       |                       |
| 7.01                                                                   |                       |
| 8.01, 9.01                                                             |                       |
| 7.02                                                                   |                       |
| 8.02, 9.02                                                             |                       |
| 7.08                                                                   |                       |
| 7.09                                                                   |                       |
| 8.08, 9.08                                                             |                       |
| 8.09, 9.09                                                             |                       |
| 10.01                                                                  |                       |
| 10.02                                                                  |                       |
| 10.03                                                                  |                       |
| 10.04                                                                  |                       |
| 10.05                                                                  |                       |
| 1.07, 2.07                                                             |                       |
| 1.08, 2.08                                                             |                       |
| 1.09, 2.09                                                             |                       |
| Community Facility                                                     |                       |
| Commercial                                                             | Scope out             |

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| Which non-potable water source is the dwelling/space connected to?: |        |
|---------------------------------------------------------------------|--------|
| G.01                                                                | Tank 1 |
| G.02, UG.04, 1.06, 2.06                                             |        |
| G.03-G.04, UG.05-UG.06                                              |        |
| G.05, UG.07                                                         |        |
| G.06, UG.08                                                         |        |
| G.07, UG.09                                                         |        |
| G.08-G.09, UG.10-UG.11                                              |        |
| G.10, UG.12, 1.10, 2.10                                             |        |
| UG.13, 1.11, 2.11                                                   |        |
| UG.01                                                               |        |
| UG.02, 1.04, 2.04                                                   |        |
| UG.03, 1.05, 2.05                                                   |        |
| 1.01, 2.01                                                          |        |
| 1.02, 2.02                                                          |        |
| 1.03, 2.03                                                          |        |
| 1.12, 2.12                                                          |        |
| Commercial                                                          |        |
| 1.07, 2.07                                                          |        |
| 1.08, 2.08                                                          |        |
| 1.09, 2.09                                                          |        |
| Community Facility                                                  |        |
| 10.06                                                               |        |
| 3.06, 4.07, 5.07, 6.07, 7.05, 8.05, 9.05                            |        |
| 3.02, 4.02, 4.03, 5.02, 5.03, 6.02, 6.03                            |        |
| 3.01, 4.01, 5.01, 6.01                                              |        |
| 3.03                                                                |        |
| 3.04                                                                |        |
| 3.05, 4.05-4.06, 5.05-5.06, 6.05-6.06, 7.03-7.04, 8.03-8.04         |        |
| 9.03-9.04                                                           |        |
| 3.07, 4.08, 5.08, 6.08, 7.06, 8.06, 9.06                            |        |
| 3.08, 4.09, 5.09, 6.09, 7.07, 8.07, 9.07                            |        |
| 3.09, 4.10, 5.10, 6.10                                              |        |
| 3.10, 4.11, 5.11, 6.11                                              |        |
| 4.04, 5.04, 6.04                                                    |        |
| 7.01                                                                |        |
| 8.01, 9.01                                                          |        |
| 7.02                                                                |        |
| 8.02, 9.02                                                          |        |
| 7.08                                                                |        |
| 7.09                                                                |        |
| 8.08, 9.08                                                          |        |
| 8.09, 9.09                                                          |        |
| 10.01                                                               |        |
| 10.02                                                               |        |
| 10.03                                                               |        |
| 10.04                                                               |        |
| 10.05                                                               |        |

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| Non-potable water source connected to Toilets:                   |        |
|------------------------------------------------------------------|--------|
| G.01                                                             | Yes    |
| G.02, UG.04, 1.06, 2.06                                          |        |
| G.03-G.04, UG.05-UG.06                                           |        |
| G.05, UG.07                                                      |        |
| G.06, UG.08                                                      |        |
| G.07, UG.09                                                      |        |
| G.08-G.09, UG.10-UG.11                                           |        |
| G.10, UG.12, 1.10, 2.10                                          |        |
| UG.13, 1.11, 2.11                                                |        |
| UG.01                                                            |        |
| UG.02, 1.04, 2.04                                                |        |
| UG.03, 1.05, 2.05                                                |        |
| 1.01, 2.01                                                       |        |
| 1.02, 2.02                                                       |        |
| 1.03, 2.03                                                       |        |
| 1.12, 2.12                                                       |        |
| Commercial                                                       |        |
| 1.07, 2.07                                                       |        |
| 1.08, 2.08                                                       |        |
| 1.09, 2.09                                                       |        |
| Community Facility                                               |        |
| 10.06                                                            | No     |
| 3.06, 4.07, 5.07, 6.07, 7.05, 8.05, 9.05                         |        |
| 3.02, 4.02, 4.03, 5.02, 5.03, 6.02, 6.03                         |        |
| 3.01, 4.01, 5.01, 6.01                                           |        |
| 3.03                                                             |        |
| 3.04                                                             |        |
| 3.05, 4.05-4.06, 5.05-5.06, 6.05-6.06, 7.03-7.04, 8.03-8.04      |        |
| 9.03-9.04                                                        |        |
| 3.07, 4.08, 5.08, 6.08, 7.06, 8.06, 9.06                         |        |
| 3.08, 4.09, 5.09, 6.09, 7.07, 8.07, 9.07                         |        |
| 3.09, 4.10, 5.10, 6.10                                           |        |
| 3.10, 4.11, 5.11, 6.11                                           |        |
| 4.04, 5.04, 6.04                                                 |        |
| 7.01                                                             |        |
| 8.01, 9.01                                                       |        |
| 7.02                                                             |        |
| 8.02, 9.02                                                       |        |
| 7.08                                                             |        |
| 7.09                                                             |        |
| 8.08, 9.08                                                       |        |
| 8.09, 9.09                                                       |        |
| 10.01                                                            |        |
| 10.02                                                            |        |
| 10.03                                                            |        |
| 10.04                                                            |        |
| 10.05                                                            |        |
| Non-potable water source connected to Laundry (washing machine): | All No |
| Non-potable water source connected to Hot Water System:          | All No |

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**Rainwater tank profile**

|                                                               |        |                      |
|---------------------------------------------------------------|--------|----------------------|
| What is the total roof area connected to the rainwater tank?: | Tank 1 | 797 m <sup>2</sup>   |
| Tank Size:                                                    | Tank 1 | 20,000 Litres        |
| Irrigation area connected to tank:                            | Tank 1 | 1,228 m <sup>2</sup> |
| Is connected irrigation area a water efficient garden?:       | Tank 1 | Yes                  |
| Other external water demand connected to tank?:               | Tank 1 | 0.0 Litres/Day       |

**1.1 Potable water use reduction**

40%

|                    |                                                                                                                                                                                                            |  |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Score Contribution | This credit contributes 71.4% towards the category score.                                                                                                                                                  |  |
| Criteria           | What is the reduction in total potable water use due to efficient fixtures, appliances, rainwater use and recycled water use? To achieve points in this credit there must be >25% potable water reduction. |  |
| Output             | Reference                                                                                                                                                                                                  |  |
| Project            | 19248 kL                                                                                                                                                                                                   |  |
| Output             | Proposed (excluding rainwater and recycled water use)                                                                                                                                                      |  |
| Project            | 14457 kL                                                                                                                                                                                                   |  |
| Output             | Proposed (including rainwater and recycled water use)                                                                                                                                                      |  |
| Project            | 13975 kL                                                                                                                                                                                                   |  |
| Output             | % Reduction in Potable Water Consumption                                                                                                                                                                   |  |
| Project            | 27.1%                                                                                                                                                                                                      |  |
| Output             | % of connected demand met by rainwater                                                                                                                                                                     |  |
| Project            | 34%                                                                                                                                                                                                        |  |
| Output             | How often does the tank overflow?                                                                                                                                                                          |  |
| Project            | Never / Rarely                                                                                                                                                                                             |  |
| Output             | Opportunity for additional rainwater consumption                                                                                                                                                           |  |
| Project            | 7820 kL                                                                                                                                                                                                    |  |

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**3.1 Water Efficient Landscaping**

100%

|                    |                                                           |  |
|--------------------|-----------------------------------------------------------|--|
| Score Contribution | This credit contributes 14.3% towards the category score. |  |
| Criteria           | Will water efficient landscaping be installed?            |  |
| Question           | Criteria Achieved ?                                       |  |
| Project            | Yes                                                       |  |

**4.1 Building Systems Water Use Reduction**

100%

|                    |                                                                                                                                                                         |  |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Score Contribution | This credit contributes 14.3% towards the category score.                                                                                                               |  |
| Criteria           | Where applicable, have measures been taken to reduce potable water consumption by >80% in the buildings air-conditioning chillers and when testing fire safety systems? |  |
| Question           | Criteria Achieved ?                                                                                                                                                     |  |
| Project            | Yes                                                                                                                                                                     |  |

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Energy Overall contribution 27.5%

|  |  |                      |     |        |
|--|--|----------------------|-----|--------|
|  |  | Minimum required 50% | 72% | ✔ Pass |
|--|--|----------------------|-----|--------|

|                                                                           |                                    |
|---------------------------------------------------------------------------|------------------------------------|
| Use the BESS Deem to Satisfy (DtS) method for Non-residential No spaces?: |                                    |
| Dwellings Energy Approach                                                 |                                    |
| What approach do you want to use for Dwellings?:                          | Use the built in calculation tools |
| Are you installing any solar photovoltaic (PV) system(s)?:                | Yes                                |
| Are you installing any other renewable energy system(s)?:                 | No                                 |
| Gas supplied into building:                                               | No gas connection                  |
| Dwelling Energy Profiles                                                  |                                    |
| Building: All                                                             | 675 Victoria St                    |
| Below the floor is: All                                                   | Another Occupancy                  |

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**Above the ceiling is:**

|                                                                        |                   |
|------------------------------------------------------------------------|-------------------|
| G.01                                                                   | Another Occupancy |
| G.02, UG.04, 1.06, 2.06                                                |                   |
| G.03-G.04, UG.05-UG.06                                                 |                   |
| G.05, UG.07                                                            |                   |
| G.06, UG.08                                                            |                   |
| G.07, UG.09                                                            |                   |
| G.08-G.09, UG.10-UG.11                                                 |                   |
| G.10, UG.12, 1.10, 2.10                                                |                   |
| UG.13, 1.11, 2.11                                                      |                   |
| UG.01                                                                  |                   |
| UG.02, 1.04, 2.04                                                      |                   |
| UG.03, 1.05, 2.05                                                      |                   |
| 1.01, 2.01                                                             |                   |
| 1.02, 2.02                                                             |                   |
| 1.03, 2.03                                                             |                   |
| 3.06, 4.07, 5.07, 6.07, 7.05, 8.05, 9.05                               |                   |
| 3.02, 4.02, 4.03, 5.02, 5.03, 6.02, 6.03                               |                   |
| 1.12, 2.12                                                             |                   |
| 3.01, 4.01, 5.01, 6.01                                                 |                   |
| 3.03                                                                   |                   |
| 3.04                                                                   |                   |
| 3.05, 4.05-4.06, 5.05-5.06, 6.05-6.06, 7.03-7.04, 8.03-8.04, 9.03-9.04 |                   |
| 3.07, 4.08, 5.08, 6.08, 7.06, 8.06, 9.06                               |                   |
| 3.08, 4.09, 5.09, 6.09, 7.07, 8.07, 9.07                               |                   |
| 3.09, 4.10, 5.10, 6.10                                                 |                   |
| 3.10, 4.11, 5.11, 6.11                                                 |                   |
| 4.04, 5.04, 6.04                                                       |                   |
| 7.01                                                                   |                   |
| 8.01, 9.01                                                             |                   |
| 7.02                                                                   |                   |
| 8.02, 9.02                                                             |                   |
| 7.08                                                                   |                   |
| 7.09                                                                   |                   |
| 8.08, 9.08                                                             |                   |
| 8.09, 9.09                                                             |                   |
| 1.07, 2.07                                                             |                   |
| 1.08, 2.08                                                             |                   |
| 1.09, 2.09                                                             |                   |
| 10.06                                                                  | Outside           |
| 10.01                                                                  |                   |
| 10.02                                                                  |                   |
| 10.03                                                                  |                   |
| 10.04                                                                  |                   |
| 10.05                                                                  |                   |

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|                                         |                       |
|-----------------------------------------|-----------------------|
| Exposed sides: All                      | 2                     |
| NatHERS Annual Energy Loads - Heat: All | 49.7 MJ/sqm           |
| NatHERS Annual Energy Loads - Cool: All | 16.2 MJ/sqm           |
| NatHERS star rating: All                | 7.5                   |
| Type of Heating System: All             | D Reverse cycle space |



|                                                                                                 |                                                                                                                    |
|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Heating System Efficiency: All                                                                  | 3 Star                                                                                                             |
| Type of Cooling System: All                                                                     | Refrigerative space                                                                                                |
| Cooling System Efficiency: All                                                                  | 3 Stars                                                                                                            |
| Type of Hot Water System: All                                                                   | C Electric Heat Pump                                                                                               |
| Is the hot water system shared by multiple dwellings?: All                                      | Yes                                                                                                                |
| % Contribution from solar hot water system: All                                                 | 0 %                                                                                                                |
| Clothes Line: All                                                                               | A No drying facilities                                                                                             |
| Clothes Dryer: All                                                                              | Occupant to Install                                                                                                |
| <b>Non-residential buildings profile</b>                                                        |                                                                                                                    |
| Heating, Cooling & Comfort Ventilation - Electricity - reference fabric and reference services: | 1,000 kWh                                                                                                          |
| Heating, Cooling & Comfort Ventilation - Electricity - proposed fabric and reference services:  | 1,000 kWh                                                                                                          |
| Heating, Cooling & Comfort Ventilation - Electricity - proposed fabric and proposed services:   | 1,000 kWh                                                                                                          |
| Heating - Wood - reference fabric and reference services:                                       | -                                                                                                                  |
| Heating - Wood - proposed fabric and reference services:                                        | -                                                                                                                  |
| Heating - Wood - proposed fabric and proposed services:                                         | -                                                                                                                  |
| Hot Water - Electricity - Baseline:                                                             | 1,000 kWh                                                                                                          |
| Hot Water - Electricity - Proposed:                                                             | 1,000 kWh                                                                                                          |
| Lighting - Baseline:                                                                            | 1,000 kWh                                                                                                          |
| Lighting - Proposed:                                                                            | 1,000 kWh                                                                                                          |
| Peak Thermal Cooling Load - Baseline:                                                           | 100.0 kW peak                                                                                                      |
| Peak Thermal Cooling Load - Proposed:                                                           | 100.0 kW peak                                                                                                      |
| <b>Solar Photovoltaic system profile</b>                                                        |                                                                                                                    |
| System Size (lesser of inverter and panel capacity): PV 1                                       | 100.0 kW peak                                                                                                      |
| Orientation (which way is the system facing?): PV 1                                             | South                                                                                                              |
| Inclination (angle from horizontal): PV 1                                                       | 10.0 Angle (degrees)                                                                                               |
| Which Building Class does this apply to?: PV 1                                                  | Apartment                                                                                                          |
| <b>1.1 Thermal Performance Rating - Non-Residential</b>                                         | 12%                                                                                                                |
| Score Contribution                                                                              | This credit contributes 1.3% towards the category score.                                                           |
| Criteria                                                                                        | What is the % reduction in heating and cooling energy consumption against the reference case (NCC 2019 Section J)? |
| Output                                                                                          | Total Improvement                                                                                                  |
| Office                                                                                          | 0 %                                                                                                                |
| Other building                                                                                  | 0 %                                                                                                                |
| <b>1.2 Thermal Performance Rating - Residential</b>                                             | 66%                                                                                                                |
| Score Contribution                                                                              | This credit contributes 30.6% towards the category score.                                                          |
| Criteria                                                                                        | What is the average NatHERS rating?                                                                                |
| Output                                                                                          | Average NATHERS Rating (Weighted)                                                                                  |
| Apartment                                                                                       | 7.5 Stars                                                                                                          |
| <b>2.1 Greenhouse Gas Emissions</b>                                                             | 100%                                                                                                               |

|                                    |                                                                                        |                  |
|------------------------------------|----------------------------------------------------------------------------------------|------------------|
| Score Contribution                 | This credit contributes 10.5% towards the category score.                              |                  |
| Criteria                           | What is the % reduction in annual greenhouse gas emissions against the benchmark?      |                  |
| Output                             | Reference Building with Reference Services (BCA only)                                  |                  |
| Apartment                          | 955,254 kg CO2                                                                         |                  |
| Office                             | 42.4 kg CO2                                                                            |                  |
| Other building                     | 18.5 kg CO2                                                                            |                  |
| Output                             | Proposed Building with Proposed Services (Actual Building)                             |                  |
| Apartment                          | 330,557 kg CO2                                                                         |                  |
| Office                             | 40.3 kg CO2                                                                            |                  |
| Other building                     | 17.5 kg CO2                                                                            |                  |
| Output                             | % Reduction in GHG Emissions                                                           |                  |
| Apartment                          | 65 %                                                                                   |                  |
| Office                             | 5 %                                                                                    |                  |
| Other building                     | 5 %                                                                                    |                  |
| <b>2.2 Peak Demand</b>             |                                                                                        | 0%               |
| Score Contribution                 | This credit contributes 5.3% towards the category score.                               |                  |
| Criteria                           | What is the % reduction in the instantaneous (peak-hour) demand against the benchmark? |                  |
| Output                             | Reference Building with Reference Services (BCA only)                                  |                  |
| Apartment                          | 1.1 kVA                                                                                |                  |
| Output                             | Proposed Building with Proposed Services (Actual Building)                             |                  |
| Apartment                          | 0.9 kVA                                                                                |                  |
| Output                             | % Reduction                                                                            |                  |
| Apartment                          | 0 %                                                                                    |                  |
| <b>2.3 Electricity Consumption</b> |                                                                                        | 100%             |
| Score Contribution                 | This credit contributes 10.5% towards the category score.                              |                  |
| Criteria                           | What is the % reduction in annual electricity consumption against the benchmark?       |                  |
| Output                             | Reference                                                                              |                  |
| Apartment                          | 936,524 kWh                                                                            |                  |
| Office                             | 41.6 kWh                                                                               |                  |
| Other building                     | 18.1 kWh                                                                               |                  |
| Output                             | Proposed                                                                               |                  |
| Apartment                          | 324,075 kWh                                                                            |                  |
| Office                             | 39.5 kWh                                                                               |                  |
| Other building                     | 17.2 kWh                                                                               |                  |
| Output                             | Improvement                                                                            |                  |
| Apartment                          | 65 %                                                                                   |                  |
| Office                             | 5 %                                                                                    |                  |
| Other building                     | 5 %                                                                                    |                  |
| <b>2.4 Gas Consumption</b>         |                                                                                        | N/A ✦ Scoped Out |
| No gas connection in use           |                                                                                        |                  |

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|                                                               |                                                                                                                                                                                                                                      |      |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| This credit was scoped out                                    | No gas connection in use                                                                                                                                                                                                             |      |
| <b>3.1 Carpark Ventilation</b>                                |                                                                                                                                                                                                                                      | 100% |
| Score Contribution                                            | This credit contributes 10.5% towards the category score.                                                                                                                                                                            |      |
| Criteria                                                      | If you have an enclosed carpark, is it: (a) fully naturally ventilated (no mechanical ventilation system) or (b) 40 car spaces or less with Carbon Monoxide monitoring to control the operation and speed of the ventilation fans?   |      |
| Question                                                      | Criteria Achieved ?                                                                                                                                                                                                                  |      |
| Project                                                       | Yes                                                                                                                                                                                                                                  |      |
| <b>3.2 Hot Water</b>                                          |                                                                                                                                                                                                                                      | 100% |
| Score Contribution                                            | This credit contributes 5.3% towards the category score.                                                                                                                                                                             |      |
| Criteria                                                      | What is the % reduction in annual energy consumption (gas and electricity) of the hot water system against the benchmark?                                                                                                            |      |
| Output                                                        | Reference                                                                                                                                                                                                                            |      |
| Apartment                                                     | 1,387,313 MJ                                                                                                                                                                                                                         |      |
| Office                                                        | 74.8 MJ                                                                                                                                                                                                                              |      |
| Other building                                                | 32.6 MJ                                                                                                                                                                                                                              |      |
| Output                                                        | Proposed                                                                                                                                                                                                                             |      |
| Apartment                                                     | 511,414 MJ                                                                                                                                                                                                                           |      |
| Office                                                        | 67.3 MJ                                                                                                                                                                                                                              |      |
| Other building                                                | 29.3 MJ                                                                                                                                                                                                                              |      |
| Output                                                        | Improvement                                                                                                                                                                                                                          |      |
| Apartment                                                     | 63 %                                                                                                                                                                                                                                 |      |
| Office                                                        | 10 %                                                                                                                                                                                                                                 |      |
| Other building                                                | 10 %                                                                                                                                                                                                                                 |      |
| <b>3.4 Clothes Drying</b>                                     |                                                                                                                                                                                                                                      | 0%   |
| Score Contribution                                            | This credit contributes 5.1% towards the category score.                                                                                                                                                                             |      |
| Criteria                                                      | What is the % reduction in annual energy consumption (gas and electricity) from a combination of clothes lines and efficient driers against the benchmark?                                                                           |      |
| Output                                                        | Reference                                                                                                                                                                                                                            |      |
| Apartment                                                     | 69,432 kWh                                                                                                                                                                                                                           |      |
| Output                                                        | Proposed                                                                                                                                                                                                                             |      |
| Apartment                                                     | 69,432 kWh                                                                                                                                                                                                                           |      |
| Output                                                        | Improvement                                                                                                                                                                                                                          |      |
| Apartment                                                     | 0 %                                                                                                                                                                                                                                  |      |
| <b>3.6 Internal Lighting - Residential Multiple Dwellings</b> |                                                                                                                                                                                                                                      | 100% |
| Score Contribution                                            | This credit contributes 10.2% towards the category score.                                                                                                                                                                            |      |
| Criteria                                                      | Is the maximum illumination power density (W/m2) in at least 90% of the relevant building class at least 20% lower than required by Table J6.2a of the NCC 2019 Vol 1 (Class 2-9) and Clause 3.12.5.5 NCC 2019 Vol 2 (Class 1 & 10)? |      |
| Question                                                      | Criteria Achieved ?                                                                                                                                                                                                                  |      |
| Apartment                                                     | Yes                                                                                                                                                                                                                                  |      |

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|                                                                       |                                                                                                                                                                           |                  |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <b>3.7 Internal Lighting - Non-Residential</b>                        |                                                                                                                                                                           | 100%             |
| Score Contribution                                                    | This credit contributes 0.3% towards the category score.                                                                                                                  |                  |
| Criteria                                                              | Does the maximum illumination power density (W/m2) in at least 90% of the area of the relevant building class meet the requirements in Table J6.2a of the NCC 2019 Vol 1? |                  |
| Question                                                              | Criteria Achieved ?                                                                                                                                                       |                  |
| Office                                                                | Yes                                                                                                                                                                       |                  |
| Other building                                                        | Yes                                                                                                                                                                       |                  |
| <b>4.1 Combined Heat and Power (cogeneration / trigeneration)</b>     |                                                                                                                                                                           | N/A ✦ Scoped Out |
| No cogeneration or trigeneration system in use.                       |                                                                                                                                                                           |                  |
| This credit was scoped out                                            | No cogeneration or trigeneration system in use.                                                                                                                           |                  |
| <b>4.2 Renewable Energy Systems - Solar</b>                           |                                                                                                                                                                           | 97%              |
| Score Contribution                                                    | This credit contributes 5.3% towards the category score.                                                                                                                  |                  |
| Criteria                                                              | What % of the estimated energy consumption of the building class it supplies does the solar power system provide?                                                         |                  |
| Output                                                                | Solar Power - Energy Generation per year                                                                                                                                  |                  |
| Apartment                                                             | 36,355 kWh                                                                                                                                                                |                  |
| Output                                                                | % of Building's Energy                                                                                                                                                    |                  |
| Apartment                                                             |                                                                                                                                                                           |                  |
| <b>4.4 Renewable Energy Systems - Other</b>                           |                                                                                                                                                                           | 0% ⚡ Disabled    |
| No other (non-solar PV) renewable energy is in use.                   |                                                                                                                                                                           |                  |
| This credit is disabled                                               | No other (non-solar PV) renewable energy in use.                                                                                                                          |                  |
| <b>Stormwater Overall contribution</b>                                |                                                                                                                                                                           | 13.5%            |
|                                                                       | Minimum required 100%                                                                                                                                                     | 100% ✓ Pass      |
| Which stormwater modelling are you using?: Melbourne Water STORM tool |                                                                                                                                                                           |                  |
| <b>1.1 Stormwater Treatment</b>                                       |                                                                                                                                                                           | 100%             |
| Score Contribution                                                    | This credit contributes 100% towards the category score.                                                                                                                  |                  |
| Criteria                                                              | Has best practice stormwater management been demonstrated?                                                                                                                |                  |
| Question                                                              | STORM score achieved                                                                                                                                                      |                  |
| Project                                                               | 101                                                                                                                                                                       |                  |
| Output                                                                | Min STORM Score                                                                                                                                                           |                  |
| Project                                                               | 100                                                                                                                                                                       |                  |

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## IEQ Overall contribution 16.5%

|  |  |                      |     |        |
|--|--|----------------------|-----|--------|
|  |  | Minimum required 50% | 66% | ✓ Pass |
|--|--|----------------------|-----|--------|

|                                                                         |                                                                                      |
|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Use the BESS Deemed to Satisfy (DtS) method for daylight to Dwellings?: | No                                                                                   |
| What approach do you want to use for daylight to Dwellings?:            | Provide our own calculations                                                         |
| 1.1 Daylight Access - Living Areas                                      | 66%                                                                                  |
| Score Contribution                                                      | This credit contributes 23% towards the category score.                              |
| Criteria                                                                | What % of living areas achieve a daylight factor greater than 1%                     |
| Question                                                                | Percentage Achieved ?                                                                |
| Apartment                                                               | 81 %                                                                                 |
| 1.2 Daylight Access - Bedrooms                                          | 66%                                                                                  |
| Score Contribution                                                      | This credit contributes 23% towards the category score.                              |
| Criteria                                                                | What % of bedrooms achieve a daylight factor greater than 0.5%                       |
| Question                                                                | Percentage Achieved ?                                                                |
| Apartment                                                               | 84 %                                                                                 |
| 1.3 Winter Sunlight                                                     | 0%                                                                                   |
| Score Contribution                                                      | This credit contributes 7% towards the category score.                               |
| Criteria                                                                | Do 100% of dwellings receive at least 3 hours of direct sunlight in all Living areas |
| Question                                                                | Criteria Achieved ?                                                                  |
| Apartment                                                               | No                                                                                   |
| 1.4 Daylight Access - Non-Residential                                   | 60% ✓ Achieved                                                                       |
| Score Contribution                                                      | This credit contributes 15% towards the category score.                              |
| Criteria                                                                | What % of the nominated floor area has at least 2% daylight factor?                  |
| Question                                                                | Percentage Achieved?                                                                 |
| Office                                                                  | 60 %                                                                                 |
| Other building                                                          | 60 %                                                                                 |
| 1.5 Daylight Access - Minimal Internal Bedrooms                         | 100%                                                                                 |
| Score Contribution                                                      | This credit contributes 7% towards the category score.                               |
| Criteria                                                                | Do at least 90% of dwellings have an external window in all bedrooms?                |
| Question                                                                | Criteria Achieved ?                                                                  |
| Apartment                                                               | Yes                                                                                  |
| 2.1 Effective Natural Ventilation                                       | 66%                                                                                  |
| Score Contribution                                                      | This credit contributes 23% towards the category score.                              |
| Criteria                                                                | What % of dwellings are effectively naturally ventilated?                            |
| Question                                                                | Percentage Achieved?                                                                 |
| Apartment                                                               | 60 %                                                                                 |
| 2.3 Ventilation - Non-Residential                                       | 34% ✓ Achieved                                                                       |

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|                                                      |                                                                                                                    |      |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|------|
| Score Contribution                                   | This credit contributes 1.5% towards the category score.                                                           |      |
| Criteria                                             | What % of the regular use areas are effectively naturally ventilated?                                              |      |
| Question                                             | Percentage Achieved?                                                                                               |      |
| Office                                               | 100 %                                                                                                              |      |
| Other building                                       | 0 %                                                                                                                |      |
| Criteria                                             | What increase in outdoor air is available to regular use areas compared to the minimum required by AS 1668.2:2012? |      |
| Question                                             | Percentage Achieved?                                                                                               |      |
| Office                                               | -                                                                                                                  |      |
| Other building                                       | -                                                                                                                  |      |
| Criteria                                             | What CO2 concentrations are the ventilation systems designed to achieve, to monitor and to maintain?               |      |
| Question                                             | Value                                                                                                              |      |
| Office                                               | -                                                                                                                  |      |
| Other building                                       | -                                                                                                                  |      |
| 3.4 Thermal comfort - Shading - Non-Residential      |                                                                                                                    | 86%  |
| Score Contribution                                   | This credit contributes 0.7% towards the category score.                                                           |      |
| Criteria                                             | What percentage of east, north and west glazing to regular use areas is effectively shaded?                        |      |
| Question                                             | Percentage Achieved?                                                                                               |      |
| Office                                               | 70 %                                                                                                               |      |
| Other building                                       | 100 %                                                                                                              |      |
| 3.5 Thermal Comfort - Ceiling Fans - Non-Residential |                                                                                                                    | 0%   |
| Score Contribution                                   | This credit contributes 0.2% towards the category score.                                                           |      |
| Criteria                                             | What percentage of regular use areas in tenancies have ceiling fans?                                               |      |
| Question                                             | Percentage Achieved?                                                                                               |      |
| Office                                               | 0 %                                                                                                                |      |
| Other building                                       | 0 %                                                                                                                |      |
| 4.1 Air Quality - Non-Residential                    |                                                                                                                    | 100% |
| Score Contribution                                   | This credit contributes 8.2% towards the category score.                                                           |      |
| Criteria                                             | Do all paints, sealants and adhesives meet the maximum total indoor pollutant emission limits?                     |      |
| Question                                             | Criteria Achieved ?                                                                                                |      |
| Project                                              | Yes                                                                                                                |      |

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|          |                                                                          |
|----------|--------------------------------------------------------------------------|
| Criteria | Does all carpet meet the maximum total indoor pollutant emission limits? |
| Question | Criteria Achieved ?                                                      |
| Project  | Yes                                                                      |

|          |                                                                                   |
|----------|-----------------------------------------------------------------------------------|
| Criteria | Does all engineered wood meet the maximum total indoor pollutant emission limits? |
| Question | Criteria Achieved ?                                                               |
| Project  | Yes                                                                               |

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**Transport Overall contribution 9.0%**

|                                                      |                                                                                                                                                                     |      |
|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|                                                      |                                                                                                                                                                     | 88%  |
| <b>1.1 Bicycle Parking - Residential</b>             |                                                                                                                                                                     | 100% |
| Score Contribution                                   | This credit contributes 21.6% towards the category score.                                                                                                           |      |
| Criteria                                             | How many secure and undercover bicycle spaces are there per dwelling for residents?                                                                                 |      |
| Question                                             | Bicycle Spaces Provided ?                                                                                                                                           |      |
| Apartment                                            | 124                                                                                                                                                                 |      |
| Output                                               | Min Bicycle Spaces Required                                                                                                                                         |      |
| Apartment                                            | 123                                                                                                                                                                 |      |
| <b>1.2 Bicycle Parking - Residential Visitor</b>     |                                                                                                                                                                     | 100% |
| Score Contribution                                   | This credit contributes 21.6% towards the category score.                                                                                                           |      |
| Criteria                                             | How many secure bicycle spaces are there per 5 dwellings for visitors?                                                                                              |      |
| Question                                             | Visitor Bicycle Spaces Provided ?                                                                                                                                   |      |
| Apartment                                            | 25                                                                                                                                                                  |      |
| Output                                               | Min Visitor Bicycle Spaces Required                                                                                                                                 |      |
| Apartment                                            | 25                                                                                                                                                                  |      |
| <b>1.3 Bicycle Parking - Convenience Residential</b> |                                                                                                                                                                     | 100% |
| Score Contribution                                   | This credit contributes 0.8% towards the category score.                                                                                                            |      |
| Criteria                                             | Are bike parking facilities for residents located at ground or entry level?                                                                                         |      |
| Question                                             | Criteria Achieved ?                                                                                                                                                 |      |
| Apartment                                            | Yes                                                                                                                                                                 |      |
| <b>1.4 Bicycle Parking - Non-Residential</b>         |                                                                                                                                                                     | 100% |
| Score Contribution                                   | This credit contributes 0.7% towards the category score.                                                                                                            |      |
| Criteria                                             | Have the planning scheme requirements for employee bicycle parking been exceeded by at least 50% (or a minimum of 2 where there is no planning scheme requirement)? |      |
| Question                                             | Criteria Achieved ?                                                                                                                                                 |      |
| Office                                               | Yes                                                                                                                                                                 |      |
| Other building                                       | Yes                                                                                                                                                                 |      |
| Question                                             | Bicycle Spaces Provided ?                                                                                                                                           |      |
| Office                                               | 3                                                                                                                                                                   |      |
| Other building                                       | 3                                                                                                                                                                   |      |
| <b>1.5 Bicycle Parking - Non-Residential Visitor</b> |                                                                                                                                                                     | 100% |

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|                    |                                                                                                                                                                    |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Score Contribution | This credit contributes 0.3% towards the category score.                                                                                                           |
| Criteria           | Have the planning scheme requirements for visitor bicycle parking been exceeded by at least 50% (or a minimum of 1 where there is no planning scheme requirement)? |
| Question           | Criteria Achieved ?                                                                                                                                                |
| Office             | Yes                                                                                                                                                                |
| Other building     | Yes                                                                                                                                                                |
| Question           | Bicycle Spaces Provided ?                                                                                                                                          |
| Office             | 2                                                                                                                                                                  |
| Other building     | 1                                                                                                                                                                  |

|                                                     |    |
|-----------------------------------------------------|----|
| <b>1.6 End of Trip Facilities - Non-Residential</b> | 0% |
|-----------------------------------------------------|----|

|                    |                                                                                                                                                                                                                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Score Contribution | This credit contributes 0.3% towards the category score.                                                                                                                                                                                                                                                                      |
| Criteria           | Where adequate bicycle parking has been provided. Is there also: * 1 shower for the first 5 employee bicycle spaces plus 1 to each 10 employee bicycles spaces thereafter, * changing facilities adjacent to showers, and * one secure locker per employee bicycle space in the vicinity of the changing / shower facilities? |
| Question           | Number of showers provided ?                                                                                                                                                                                                                                                                                                  |
| Office             | 0                                                                                                                                                                                                                                                                                                                             |
| Other building     | 0                                                                                                                                                                                                                                                                                                                             |
| Question           | Number of lockers provided ?                                                                                                                                                                                                                                                                                                  |
| Office             | 0                                                                                                                                                                                                                                                                                                                             |
| Other building     | 0                                                                                                                                                                                                                                                                                                                             |
| Output             | Minimum 1 per employee                                                                                                                                                                                                                                                                                                        |
| Office             | 0                                                                                                                                                                                                                                                                                                                             |
| Other building     | 0                                                                                                                                                                                                                                                                                                                             |
| Output             | Minimum 1 per employee                                                                                                                                                                                                                                                                                                        |
| Office             | 3                                                                                                                                                                                                                                                                                                                             |
| Other building     | 3                                                                                                                                                                                                                                                                                                                             |

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|                                            |      |
|--------------------------------------------|------|
| <b>2.1 Electric Vehicle Infrastructure</b> | 100% |
|--------------------------------------------|------|

|                    |                                                                |
|--------------------|----------------------------------------------------------------|
| Score Contribution | This credit contributes 22.3% towards the category score.      |
| Criteria           | Are facilities provided for the charging of electric vehicles? |
| Question           | Criteria Achieved ?                                            |
| Project            | Yes                                                            |

|                             |    |
|-----------------------------|----|
| <b>2.2 Car Share Scheme</b> | 0% |
|-----------------------------|----|

|                    |                                                                       |
|--------------------|-----------------------------------------------------------------------|
| Score Contribution | This credit contributes 11.1% towards the category score.             |
| Criteria           | Has a formal car sharing scheme been integrated into the development? |
| Question           | Criteria Achieved ?                                                   |
| Project            | No                                                                    |

|                                |      |
|--------------------------------|------|
| <b>2.3 Motorbikes / Mopeds</b> | 100% |
|--------------------------------|------|

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|                    |                                                                                                                           |
|--------------------|---------------------------------------------------------------------------------------------------------------------------|
| Score Contribution | This credit contributes 11.1% towards the category score.                                                                 |
| Criteria           | Are a minimum of 5% of vehicle parking spaces designed and labelled for motorbikes (must be at least 5 motorbike spaces)? |
| Question           | Criteria Achieved ?                                                                                                       |
| Project            | Yes                                                                                                                       |

**Waste Overall contribution 5.5%**

|  |     |
|--|-----|
|  | 66% |
|--|-----|

|                                                           |                                                                                                                             |
|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| <b>1.1 - Construction Waste - Building Re-Use</b>         | 0%                                                                                                                          |
| Score Contribution                                        | This credit contributes 33.3% towards the category score.                                                                   |
| Criteria                                                  | If the development is on a site that has been previously developed, has at least 30% of the existing building been re-used? |
| Question                                                  | Criteria Achieved ?                                                                                                         |
| Project                                                   | No                                                                                                                          |
| <b>2.1 - Operational Waste - Food &amp; Garden Waste</b>  | 100%                                                                                                                        |
| Score Contribution                                        | This credit contributes 33.3% towards the category score.                                                                   |
| Criteria                                                  | Are facilities provided for on-site management of food and garden waste?                                                    |
| Question                                                  | Criteria Achieved ?                                                                                                         |
| Project                                                   | Yes                                                                                                                         |
| <b>2.2 - Operational Waste - Convenience of Recycling</b> | 100%                                                                                                                        |
| Score Contribution                                        | This credit contributes 33.3% towards the category score.                                                                   |
| Criteria                                                  | Are the recycling facilities at least as convenient for occupants as facilities for general waste?                          |
| Question                                                  | Criteria Achieved ?                                                                                                         |
| Project                                                   | Yes                                                                                                                         |

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**Urban Ecology Overall contribution 5.5%**

|  |  |     |
|--|--|-----|
|  |  | 66% |
|--|--|-----|

|                                                             |                                                                                                                                                                                                                                                                          |      |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>1.1 Communal Spaces</b>                                  |                                                                                                                                                                                                                                                                          | 97%  |
| Score Contribution                                          | This credit contributes 11.1% towards the category score.                                                                                                                                                                                                                |      |
| Criteria                                                    | Is there at least the following amount of common space measured in square meters : * 1m <sup>2</sup> for each of the first 50 occupants * Additional 0.5m <sup>2</sup> for each occupant between 51 and 250 * Additional 0.25m <sup>2</sup> for each occupant above 251? |      |
| Question                                                    | Common space provided                                                                                                                                                                                                                                                    |      |
| Apartment                                                   | 950 m <sup>2</sup>                                                                                                                                                                                                                                                       |      |
| Office                                                      | -                                                                                                                                                                                                                                                                        |      |
| Other building                                              | -                                                                                                                                                                                                                                                                        |      |
| Output                                                      | Minimum Common Space Required                                                                                                                                                                                                                                            |      |
| Apartment                                                   | 212 m <sup>2</sup>                                                                                                                                                                                                                                                       |      |
| Office                                                      | 22 m <sup>2</sup>                                                                                                                                                                                                                                                        |      |
| Other building                                              | 6 m <sup>2</sup>                                                                                                                                                                                                                                                         |      |
| <b>2.1 Vegetation</b>                                       |                                                                                                                                                                                                                                                                          | 100% |
| Score Contribution                                          | This credit contributes 44.6% towards the category score.                                                                                                                                                                                                                |      |
| Criteria                                                    | How much of the site is covered with vegetation, expressed as a percentage of the total site area?                                                                                                                                                                       |      |
| Question                                                    | Percentage Achieved ?                                                                                                                                                                                                                                                    |      |
| Project                                                     | 36 %                                                                                                                                                                                                                                                                     |      |
| <b>2.2 Green Roofs</b>                                      |                                                                                                                                                                                                                                                                          | 0%   |
| Score Contribution                                          | This credit contributes 11.1% towards the category score.                                                                                                                                                                                                                |      |
| Criteria                                                    | Does the development incorporate a green roof?                                                                                                                                                                                                                           |      |
| Question                                                    | Criteria Achieved ?                                                                                                                                                                                                                                                      |      |
| Project                                                     | No                                                                                                                                                                                                                                                                       |      |
| <b>2.3 Green Walls and Facades</b>                          |                                                                                                                                                                                                                                                                          | 0%   |
| Score Contribution                                          | This credit contributes 11.1% towards the category score.                                                                                                                                                                                                                |      |
| Criteria                                                    | Does the development incorporate a green wall or green façade?                                                                                                                                                                                                           |      |
| Question                                                    | Criteria Achieved ?                                                                                                                                                                                                                                                      |      |
| Project                                                     | No                                                                                                                                                                                                                                                                       |      |
| <b>2.4 Private Open Space - Balcony / Courtyard Ecology</b> |                                                                                                                                                                                                                                                                          | 100% |
| Score Contribution                                          | This credit contributes 10.8% towards the category score.                                                                                                                                                                                                                |      |
| Criteria                                                    | Is there a tap and floor waste on every balcony / in every courtyard?                                                                                                                                                                                                    |      |
| Question                                                    | Criteria Achieved ?                                                                                                                                                                                                                                                      |      |
| Apartment                                                   | Yes                                                                                                                                                                                                                                                                      |      |
| <b>3.1 Food Production - Residential</b>                    |                                                                                                                                                                                                                                                                          | 0%   |

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|                                       |                                                                  |    |
|---------------------------------------|------------------------------------------------------------------|----|
| Score Contribution                    | This credit contributes 10.8% towards the category score.        |    |
| Criteria                              | What area of space per resident is dedicated to food production? |    |
| Question                              | Food Production Area                                             |    |
| Apartment                             | 0.0 m²                                                           |    |
| Output                                | Min Food Production Area                                         |    |
| Apartment                             | 76 m²                                                            |    |
| 3.2 Food Production - Non-Residential |                                                                  | 0% |
| Score Contribution                    | This credit contributes 0.3% towards the category score.         |    |
| Criteria                              | What area of space per occupant is dedicated to food production? |    |
| Question                              | Food Production Area                                             |    |
| Office                                | -                                                                |    |
| Other building                        | -                                                                |    |
| Output                                | Min Food Production Area                                         |    |
| Office                                | 6 m²                                                             |    |
| Other building                        | 2 m²                                                             |    |

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Innovation Overall contribution 9.0%

|  |  |     |
|--|--|-----|
|  |  | 40% |
|--|--|-----|

| Innovations               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Description:              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     |
| Carbon Neutral Commitment | NIL gas connection and all electric services. Targeting a min. 7 Star average energy rating result. The proposed development will be established with a carbon neutral power agreement between developer, owner's corporation, and electrical retailer to provide GreenPower for all energy consumed by building (including communal areas, apartments and retail tenancies). It is the intent to maintain this agreement for a minimum of 10 years. Additionally, the development is committed to provide on-site renewable energy generation to meet minimum of 5% of electricity consumed by residents at the site per the Embedded Networks Review. |     |
| ESD Verification          | An ESD professional will be engaged throughout the design and construction process. The ESD professional will perform a minimum of 2 site inspections during the construction phase to ensure suitable implementation of the ESD initiatives. Any deficiencies compared to the endorsed SMP will be escalated to the point of leave building.                                                                                                                                                                                                                                                                                                           |     |
| Social Innovation         | The development will seek to implement a community portal and activity schedule to enhance the social interactions of its occupants within the buildings communal spaces.                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |     |
| Points Targeted:          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     |
| Carbon Neutral Commitment | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |     |
| ESD Verification          | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |     |
| Social Innovation         | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |     |
| 1.1 Innovation            | <div><div></div></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 40% |
| Score Contribution        | This credit contributes 100% towards the category score.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |
| Criteria                  | What percentage of the Innovation points have been claimed (10 points maximum)?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     |

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